

'A relieved Obama' won't last long

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Indefinite articles are generally used to introduce new or unfamiliar entities to the discourse. However, in noun phrases such as *een opgeluchte Obama* 'a relieved Obama', the proper noun denotes a familiar individual who does not even have to be new in the discourse. Yet, an indefinite article is used in this construction. We have conducted a corpus study in written Dutch and a production experiment in order to find out the characteristics of this construction as well as its definite counterpart. We will show that the denotation of the adjective plays a crucial role in the semantic composition of the construction, and that preferences for either a definite or an indefinite article correlate with differences in the duration of the state denoted by the adjective. We will use semantic type-theory to account for these findings.

Keywords: proper nouns, indefinite articles, stage-level adjectives, type-theory

1. Introduction

Proper nouns such as *Obama* in (1) refer to a particular individual in the world and therefore can be considered type *e* (denoting an entity). Strikingly, however, the DP *a relieved Obama* which similarly refers to Obama himself, i.e., a specific individual, starts with an indefinite article:

- (1) Shortly after news of his victory filtered through, a relieved Obama shared a tender picture of himself holding wife Michelle on his campaign twitter page.¹

In this article we will investigate the characteristics of indefinite constructions such as *a relieved Obama* as well as its definite counterparts in Dutch. We will call these constructions *(in)definite modified proper noun constructions*. Despite this name, we will argue that the adjective plays a crucial role and that it does not have

1. <http://www.ibtimes.co.uk/presidential-election-results-stars-react-barack-obama-402401>

the type of a modifier in this construction. Section 2 will introduce the limited semantic literature on this construction. Section 3 will describe our exploratory corpus study in written Dutch, and Section 4 the results of a production experiment. Section 5 will present a semantic type-theoretic analysis of the indefinite and definite modified proper nouns, and Section 6 the conclusion.

2. A previous semantic analysis of (in)definite modified proper nouns

Note that the use of an indefinite article in combination with a proper noun as in (1) above is quite different from its occurrence in an example like *He is a real Einstein*, because in the latter example the DP *a real Einstein* functions as a nominal predicate, that no longer denotes Einstein himself, but rather a certain relevant property Einstein had. Another example where a proper noun is used in combination with an indefinite article is *An Obama will never see the inside of a prison cell*.² In this example *an Obama* still refers to Obama in the real world, but gets a generic interpretation, something like ‘Obama or somebody like Obama’. Von Heusinger & Wespel (2007) propose that an article in front of a proper noun can serve to introduce a variable over manifestations of individuals. Indefinite DPs such as *an Obama* in *An Obama will never see the inside of a prison cell* “involve generic quantification over ‘manifestations’ of individuals” (von Heusinger & Wespel 2007:333). Von Heusinger & Wespel’s (2007) main focus is on this type of generic constructions containing a proper noun. However, they also briefly propose an analysis of constructions such as given in (1) above. They label this type of construction the ‘stage use’ of proper noun constructions. Two of their German examples of this ‘stage use’ of proper nouns, one indefinite and one definite, are given in (2) and (3) below (von Heusinger & Wespel 2007:336–337):

- (2) Durch die Tür kam ein wütender Paul
 through the door came a furious Paul
 ‘A furious Paul entered’
- (3) Der junge Isaac Newton zeigte keine Anzeichen von Genie
 the young Isaac Newton showed no sign of Genius
 ‘The young Isaac Newton showed no sign of a genius’

The semantics proposed by von Heusinger & Wespel (2007:337) is given in (4a) for the indefinite DP and in (4b) for the definite one:

2. https://twitter.com/allys_sons/status/394572857797128192

- (4) a. $||a (PN + MOD)||_{\text{stages}} = \lambda x_s [R(x_s, d) \ \& \ ||MOD||_s(x_s)]$
 b. $||the (PN + MOD_{\text{temp}})||_{\text{stages}} = \iota x_s [R(x_s, d, ||MOD_{\text{temp}}||)]$

The definitions in (4) can be read as follows: (4a) gives the set of stages which stand in a realization relation R to the bearer d of the proper noun (PN) and for which the modifier (MOD) holds; (4b) gives the unique stage of the bearer d of a proper noun at time t (as specified by the modifier). Thus, according to von Heusinger & Wespel (2007) the indefinite DP in (2) denotes a set of stages of an individual that is modified by the adjective, whereas the definite DP in (3) denotes a specific stage of an individual. Crucially, in their analysis the article in front of the modified proper noun turns the specific individual denoted by the proper noun into a set of stages of that particular individual or into a unique stage of that particular individual in case of a definite construction. They furthermore claim that “[i]t follows naturally that individual-level predicates cannot be used to modify stage-level proper name variables” (von Heusinger & Wespel 2007: 337). They provide (5) as an example to support this claim:

- (5) ?Durch die Tür kam ein intelligenter Paul
 through the door came an intelligent Paul
 ‘An intelligent Paul entered’

They claim that the modifying adjectives in the (in)definite modified proper noun constructions have to be stage-level predicates (Kratzer 1995), but they do not distinguish between the indefinite and definite constructions in this respect. Both types of DPs are examples of what they call the ‘stage use of proper nouns’. We will argue in Section 5 that it is not the article but the adjective itself that turns a particular individual into a set of stages of that individual. Moreover, different types of adjectives will be shown to have different preferences for combining with either a definite or an indefinite article.

3. A corpus study in written Dutch

In order to find out more about the use of (in)definite modified proper nouns in Dutch, we decided to carry out a corpus study. Because of our intuition that constructions such as *a relieved Obama* in (1) are typically found in written language and not in spoken language, we searched for the (in)definite modified proper noun constructions in SoNaR-500 (Oostdijk et al. 2013), a corpus consisting of over 500 million words of texts from different genres. We looked for combinations of an indefinite or definite article with one of 15 adjectives, and then selected the constructions in which the article and adjective were combined with a uniquely referring

noun such as a proper noun. Most uniquely referring nouns in the target constructions were proper nouns. When the definite article received an anaphoric interpretation, the construction was not selected. This could only be determined by taking into account the context in which the construction occurred as well. When the number of results for an adjective combined with a definite or indefinite article and a uniquely referring noun exceeded 300, we only selected the first 300 results.

For all adjectives that were used in the search at least some indefinite modified proper noun constructions were found in the corpus.³ Adjectives that occurred significantly more often in indefinite constructions than in definite constructions (that is, at least twice as much compared to definite constructions and at least 20 times) are: *opgeluchte* 'relieved', *huilende* 'crying', *blijde* 'happy', *woedende* 'furious', *geïrriteerde* 'irritated', and *teleurgestelde* 'disappointed'. Adjectives for which it was the other way around (in that they occurred significantly more often in definite constructions) are *geblesseerde* 'injured' and *gemene* 'mean'.

Sentences (6) and (7) from the corpus provide examples with the adjective *geïrriteerde* 'irritated', that occurred 34 times with the indefinite article in the corpus and 7 times with the definite article:

- (6) Ik heb niets tegen de politie, maar die mannen
I have nothing against the police but these men
mogen veel meer dan een ander, aldus een geïrriteerde A.
may much more than an other so an irritated A.
'I have nothing against the police, but these men are allowed to do much
more than others, said an irritated A.'
- (7) "Heb je de boodschap begrepen?" schreeuwde de geïrriteerde
have you the message understood yelled the irritated
Houthakker in mijn gezicht
Houthakker in my face
'"Did you get the message?," the irritated Houthakker yelled in my face'

Whereas *geïrriteerde* 'irritated' is one of the adjectives that occur more often with the indefinite article in the corpus, *geblesseerde* 'injured' occurs more often with the definite article (267 times of the first 300) than with the indefinite article (26 times). Two examples are given in (8) and (9):

- (8) Vossen speelt in de plaats van de geblesseerde Barda
Vossen plays in the place of the injured Barda
'Vossen plays instead of the injured Barda'

3. All target sentences from the corpus study can be found in Appendix 1 at: http://www.ru.nl/publish/pages/518697/masterthesis_erica_kemperman.pdf.

- (9) Davenport had weinig moeite met een geblesseerde Venus Williams
 Davenport had little trouble with an injured Venus Williams
 ‘Davenport had little difficulty with an injured Venus Williams’

The question is what distinguishes adjectives like *irritated* that occur more often with an indefinite article from those like *injured* that occur more often with a definite article. A first observation is that the adjectives in the first group denote states that are presumably caused by an event in the external world. When one is happy, relieved, irritated, crying, disappointed, or furious, presumably these are temporary states related to a certain event. That is, one can be happy, relieved, irritated, crying, disappointed, or furious *about* something that happened.⁴ Being injured or being mean are states that relate to internal or physical properties of the individual, but they are not necessarily caused by an event. A second observation is that the adjectives that occur more often with the indefinite article in a modified proper noun construction are all stage-level predicates (including *blije* ‘happy’ in Dutch, which usually gets the interpretation ‘temporarily happy about something’) predicated over temporary stages or instantiations of an individual. Recall that only two adjectives occurred more often with the definite than the indefinite article in a modified proper noun construction, *gemene* ‘mean’ and *geblesseerde* ‘injured’. Whereas *gemene* ‘mean’ can denote a permanent property and hence would be an example of an individual-level predicate, *geblesseerde* ‘injured’ is a clear example of a stage-level predicate, just like ‘ill’. Therefore, what distinguishes the adjectives that occur more often with an indefinite article from the ones that occur more often with a definite article cannot be the difference between stage-level and individual-level predicates (Kratzer 1995). However, although *geblesseerde* ‘injured’ is a stage-level predicate, the time span of being injured is usually longer than that of for example being irritated or being relieved. We follow Irimia and Welch (2014) in dividing the group of stage-level predicates into two subclasses, ‘stage-level short (term)’ and ‘stage-level long (term)’. A further distinction between ‘defining’ (context-dependent) individual-level predicates such as *lange* ‘tall’ and ‘characterizing’ (context-independent) ones such as *aardige* ‘kind’ could be made, but in our study only characterizing individual-level predicates have been used (Roy 2006). We hypothesize that indefinite articles occur more often in modified proper noun constructions when the adjective is a stage-level short predicate such as *geïrriteerd* ‘irritated’ than when the adjective is a stage-level long predicate such as *geblesseerde* ‘injured’ or an individual-level predicate such as *gemene* ‘mean’. In order to test this hypothesis, we carried out an experiment that will be reported upon in the next section.

4. Thanks to Vera de Winter for pointing this out to us.

4. The experiment

4.1 Methodology

The participants in the experiment were all Dutch-speaking individuals, mainly students from the Radboud University, none of whom was a linguist or a student of linguistics. Their age varied from 14 years to 55 years. No reward was given. In the end, the answers of a total of 96 participants were taken into account in this study. Due to technical problems, the results of about fifteen additional respondents were lost.

An online program was used to present the question and answer options to the participants. The experiment contained 36 sentences with a gap and a scroll bar to indicate the preferred option. One side of the scroll bar was labelled with the definite article *de* ‘the’, the other side was labelled with the indefinite article *een* ‘a’. A small bar could be moved to any point on the scroll bar. A position further to the left indicated a preference for the article on the left side, a position further to the right indicated a preference for the article on the right side. This was done so as not to force participants to make a choice between the articles, providing us with more information about the strength of the preference for one of the articles. Each point on the scroll bar was linked to a value between 0 and 100. The middle point indicated a value of 50, the left side had value 0 and the right side had value 100.

The 36 sentences contained twelve different adjectives, each adjective appearing three times. In a pretest, twenty participants (students of the Radboud University Nijmegen) assessed of twenty adjectives whether they denoted states of short duration, longer duration (longer than one day usually) or a ‘permanent quality’. Based on this pretest the following adjectives (for which there was over 75% agreement among the participants) were chosen to be used in the experiment:

- Stage level short: *teleurgestelde* ‘disappointed’, *huilende* ‘crying’, *geïrriteerde* ‘irritated’, *opgeluchte* ‘relieved’;
- Stage level long: *geblesseerde* ‘injured’, *depressieve* ‘depressed’, *verliefde* ‘in love being’, *zieke* ‘sick’;
- Individual level: *creatieve* ‘creative’, *aardige* ‘kind’, *betrouwbare* ‘reliable’, *leuke* ‘nice’.

Most experimental sentences were taken from the corpus study, but modified in such a way that they would not exceed twenty words and that in every sentence an adjective could be replaced by two of the other adjectives. Each adjective formed a triple with two other adjectives, from both other adjective-groups. For instance, the stage level short adjective *huilende* ‘crying’ formed a triple with the stage level long adjective *geblesseerde* ‘injured’ and the individual level adjective *betrouwbare*

‘reliable’. Six versions of the experiment were created. In the first version, the first twelve sentences contained stage level short adjectives, the second twelve sentences stage level long adjectives and the last twelve sentences contained individual level adjectives. In the other versions the adjectives were altered.⁵

An additional 36 fillers were constructed. These items were similar to the experimental items, except that only one article was possible, or at least highly preferred in these sentences. The filler items were used to prevent participants from only choosing points on one side of the scroll bar. The first eighteen filler sentences were existential sentences, without an adjective, in which only indefinite articles were possible or highly preferred. The second eighteen fillers were sentences with anaphoric reference. In those sentences a definite article was highly preferred. The same filler items were used in all six versions of the experiment. For each version, the 72 sentences were randomized. In three versions *een* was placed on the left of the scroll bar and *de* on the right, in the other three versions *de* was placed on the left and *een* on the right.

Participants were given a link to one of the versions of the experiment so that every version was completed in approximately equal shares. In the experiment, each participant was presented with 72 pages each containing a sentence and a scroll bar. For each item the participant had to choose a point on the scroll bar and then click on ‘next’ to move to the next item. It was only possible to go forward, from one question to the next, not to go back. There was no time limit. After the last sentence, a final page appeared, asking questions about demographics, the respondents’ age and what they thought the experiment was about. The data was sorted so that a value of 0 always corresponded with the choice for an indefinite article, whereas the value of 100 always reflected the choice for a definite article.

4.2 Results

Figure 1 provides an overview of the results. The bar chart in Figure 1 was plotted with the different adjective-groups on the horizontal axis and the mean value on the scroll bar of all the sentences that contained an adjective from that group on the vertical axis, indicated by all the participants. As we can see, the bar for stage-level long is higher than the bar for stage-level short and the bar for individual-level is again higher than the bar for stage-level long. This is in line with our hypothesis, because higher bars indicate less use of the indefinite article *een* ‘a’.

Note that on the one hand, none of the bars comes close to 100, meaning that for all types of adjectives an indefinite article was considered possible in the

5. A complete overview of the sentences used in the experiment can be found in Appendix 3 at: http://www.ru.nl/publish/pages/518697/masterthesis_ERICA_kemperman.pdf.

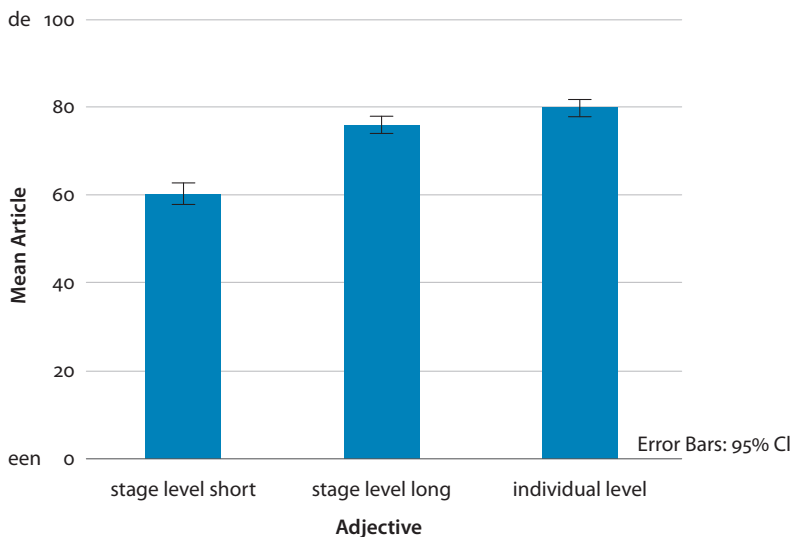


Figure 1.

construction by at least some participants. On the other hand, all the bars are higher than 50, meaning that for all the adjective-groups participants were more likely to choose a definite article than an indefinite article.

In this bar chart different items from the same participant and items from different participants were grouped together. In the following repeated measures analysis this is taken into account. To test our hypothesis, a repeated measures ANOVA was performed. Mauchley's test showed that the assumption of sphericity had not been violated, $\chi^2(2) = 3.281$, $p = .194$. A repeated measures ANOVA shows a significant effect. The mean article value differs significantly from constructions with a different adjective type ($F(2, 184.00) = 52.571$, $p < 0.00$). Therefore, we can conclude that an indefinite article is used more frequently in target constructions with a stage-level short adjective than in target constructions with an individual-level adjective. Looking at the three adjective groups with pairwise comparisons with a Sidak correction, yields the following results. On average, participants find *een* more acceptable in case of a stage-level short adjective ($M = 59.144$, $SE = 2.489$) than in examples with an individual-level adjective ($M = 79.070$, $SE = 1.653$). This difference, 19.926, 95% CI $[-25.189, -14.664]$, is significant $p < .001$ (two-sided). The second test compares the first and the second group of adjectives: stage-level short and stage-level long. On average, participants find *een* more acceptable with a stage-level short adjective ($M = 59.144$, $SE = 2.489$) than with a stage-level long adjective ($M = 72.923$, $SE = 2.182$). This difference, 13.779, 95% CI $[-18.288, -9.270]$, is significant $p < .001$ (two-sided). In the third test the second and the third group of adjectives are compared: stage-level long adjectives and individual-level

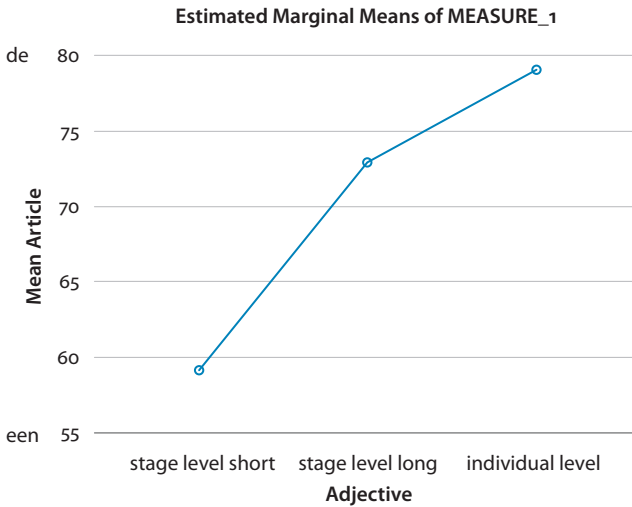


Figure 2.

adjectives. On average, participants find *een* more acceptable with a stage-level long adjective ($M=72.923$, $SE=2.182$) than with an individual-level adjective ($M=79.070$, $SE=1.653$). This difference, 6.147, 95% CI $[-10.865, -1.429]$, is significant $p < .006$ (two-sided). This difference between stage-level long adjectives and individual-level adjectives however is smaller than the other two differences.

This effect is shown in Figure 2. The line between stage-level long and individual-level is less steep than the line between stage-level short and stage-level long. This indicates a smaller difference between stage-level long adjectives and individual-level adjectives than between stage-level short and stage-level long adjectives. The line between stage-level long and individual-level is also less steep than the imaginable line between stage-level short and individual-level.

4.3 Discussion

The overall preference for a definite article is not what we expected on the basis of the results of our corpus study. This can perhaps be explained by the experimental setting in which isolated sentences without further context were used. In the absence of context, definite articles get straightforwardly interpreted as having an anaphoric interpretation. There is nothing wrong with an isolated sentence such as *I saw the man*, although in an actual context one would need an antecedent to interpret the definite article. Also, an individual-level reading for definite modified proper nouns can be obtained, even when the adjective is stage-level, as in *I prefer the cheerful Kerstin to the melancholic one* (von Heusinger & Wespel 2007: 339).

However, the results of this experiment show that there are significant differences among adjectives denoting properties with a different duration. The findings support our hypothesis that adjectives denoting a state of shorter duration are more often preceded by *een* 'a' in combination with a proper noun than adjectives denoting a state of longer duration. Not only did we find evidence for a difference between stage-level adjectives and individual-level adjectives, we also provided evidence for differences between stage-level short and stage-level long adjectives, and between stage-level long and individual-level adjectives. In the next section we will present our semantic analysis of the (in)definite modified proper noun construction.

5. A type-theoretic analysis

Let's assume that in general proper nouns uniquely refer to particular individuals in the world and therefore denote in type e (cf. Löbner 2011).⁶ Although certain determiners have indeed been argued to take noun phrases of type e as their complement (Matthewson 2001; de Hoop 1997), we assume that the indefinite article *een* 'a(n)' in Dutch only selects noun phrases of type $\langle e, t \rangle$ as their complement, i.e., sets of individuals. That is, they cannot straightforwardly take a proper noun as their complement, as in *an Obama*. However, a type-shifting operation may be used to adapt the type of the proper noun (Partee 1987, de Hoop 2012). For example, Partee (1987) argues in favour of a commonly employed type-shifting rule which turns a proper noun into a common noun denoting one characteristic property, as in *He is a real Einstein*. As pointed out in Section 2 above, von Heusinger and Wespel (2007:336) propose that "[S]uitably modified, proper names can serve to denote stages of the individual that is the bearer of the name." In their approach, it is the article in front of a proper noun that introduces a variable over stages of individuals and thus functions as a type-shifter from individuals to stages or manifestations of that individual, stages or manifestations that are further specified by the modifying adjective. Instead, we assume that the semantic types of the proper noun and the article in (in)definite modified proper noun constructions are kept constant. Hence, the type-shifting does not take place at the level of the proper noun nor at the level of the DP, but at the level of the noun phrase that is the complement of the article. In our analysis the adjective serves as a lexical type-shifter that takes as its argument a proper noun (type e) and yields a set of individuals (type $\langle e, t \rangle$). The adjective itself therefore does not have the type of a modifier (type

6. Other approaches have claimed that all proper nouns are predicates, just like common nouns (cf. Fara 2015).

$\langle\langle e, t \rangle, \langle e, t \rangle\rangle$), which is the most natural type for an attributive adjective, but instead it denotes in type $\langle e, \langle e, t \rangle \rangle$. That is, it takes an individual denoted by a proper noun as its argument, and yields a set of stages of that particular individual. This set of individuals, or stages of an individual, is then a suitable argument for either the definite or the indefinite article. Thus, while *Obama* denotes an individual of type e , *relieved Obama* denotes a set of stages of Obama of type $\langle e, t \rangle$, just like a common noun such as *president*. This noun phrase of type $\langle e, t \rangle$ is turned into a full DP by adding the indefinite or definite article, as in *a relieved Obama* or *the relieved Obama*, just like what happens when combining a common noun with an article, as in *a president* or *the president*.

Clearly, some adjectives are better suited than others to function as a type-shifter of the proper noun. This is related to the duration of the state denoted by the adjective. *Obama* refers to one single individual, and if we use an individual-level or a stage-level long predicate, we may create a singleton set with only one stage of Obama. Such a singleton set is not as suitable for quantification by an indefinite article, although it is not impossible (see also the discussion in de Hoop and de Swart (1990) on 'once-only' stage-level predicates that behave as individual-level predicates in some respects). The shorter the duration of the state denoted by the adjective, the easier it is to turn the individual Obama into a set of more than one entity, i.e., stages of Obama. Whereas an indefinite article preferably requires a complement that denotes a non-singleton set (compare for example *A man came in* to the less felicitous *A president came in*, and *A star was shining* to the less felicitous or pragmatically odd *A sun was shining*), this restriction does not hold for a definite article (*The man came in* and *The president came in* are both felicitous, and so are *The star was shining* and *The sun was shining*). Hence, we can account for the difference between definite and indefinite articles in relation to the three types of adjectives in modified proper noun constructions. Stage-level short adjectives are better in creating non-singleton sets of (stages of) individuals out of proper nouns than stage-level long adjectives, which in turn are better suited for this purpose than individual-level predicates.

6. Conclusion

Based on the results of a corpus study and a production experiment we conclude that a shorter duration of the states denoted by these adjectives increases the probability that an indefinite article instead of a definite article may be used in modified proper noun constructions such as *a/the relieved Obama*. The results of the experiment have shown that there are significant differences among adjectives denoting properties with a different duration, not only between the two traditionally

distinguished categories of stage-level predicates and individual-level predicates, but also between stage-level short and stage-level long predicates. The findings support our hypothesis that adjectives denoting a state of shorter duration are more often preceded by an indefinite article in combination with a proper noun than adjectives denoting a state of longer duration. We have argued that in this type of construction the adjective functions as a type-shifter of type $\langle e, \langle e, t \rangle \rangle$ that shifts the type of a proper noun to the type of a set of individuals. Three types of adjectives, stage-level short, stage-level long and individual-level, differ in their ability to create a set of stages of the individual whose cardinality exceeds one, which explains the differences in the probability that an indefinite article will be used in this construction, since indefinite articles disprefer singleton sets as their complement.

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References

- Fara, D. G. 2015. "Names are predicates". *Philosophical Review* 124.59–117.
DOI: 10.1215/00318108-2812660
- von Heusinger, Klaus & Johannes Wespel. 2007. "Indefinite proper names and quantification over manifestations". *Proceedings of Sinn und Bedeutung 11* ed. by E. Puig-Waldmüller, 332–345. Barcelona: Universitat Pompeu Fabra.
- de Hoop, H. 1997. "A semantic reanalysis of the partitive constraint". *Lingua* 103.151–174.
DOI: 10.1016/S0024-3841(97)00018-1
- de Hoop, Helen. 2012. "Type shifting". *Semantics. An international handbook of natural language meaning*, vol. 3 ed. by C. Maienborn, K. von Heusinger and P. Portner, 2259–2271. Berlin: De Gruyter.
- de Hoop, Helen & Henriëtte de Swart. 1990. "Indefinite objects". *Linguistics in the Netherlands 1990*, ed. by R. Bok-Bennema & P. Coopmans, 91–100. Dordrecht: Foris.
- Irimia, Monica A. & Nicholas Welch. 2014. Splits in predicative copular sentences. Paper presented at the Workshop on Copulas. University of Bologna.
- Kratzer, Angelika. 1995. "Stage-level and individual-level predicates". *The Generic Book* ed. by G. Carlson & F. Pelletier, 125–175. Chicago: The University of Chicago Press.
- Löbner, S. 2011. "Concept types and determination". *Journal of Semantics* 28.279–333.
DOI: 10.1093/jos/ffq022

- Matthewson, L. 2001. “Quantification and the nature of crosslinguistic variation”. *Natural Language Semantics* 9.145–189. DOI: 10.1023/A:1012492911285
- Oostdijk, Nelleke, Martin Reynaert, Véronique Hoste & Henk van den Heuvel. 2013. *SoNaR User Documentation*, version 1.0.4. Retrieved from: <http://tst-centrale.org/producten/corpora/sonar-corpus/6-85>
- Partee, Barbara H. 1987. “Noun phrase interpretation and type shifting principles”. *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers* ed. by J. Groenendijk, D. de Jongh and M. Stokhof, 115–143. Dordrecht: Foris.
- Roy, Isabelle A. 2006. Non-verbal predications: A syntactic analysis of predicational copular sentences. PhD dissertation, University of Southern California.

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