Bare nominals are underspecified for (in)definite meanings, not ambiguous between them*

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Abstract

Definite bare nominals in *article-less* languages exhibit a more limited distribution than English *the* in anaphoric contexts. Here, I argue that a comprehensive account of this fact is facilitated by a wherein bare nominals are *underspecified* for (in)definiteness in episodic contexts, instead of the standard view that they are *ambiguous* – with the two meanings arising through completely independent means. I discuss how assuming underspecificity in the bare nominals opens up a new type of empirically viable, analytically parsimonious account of their anaphoric variability unavailable under the ambiguity view.

1 Introduction

Delineating the exact relationship between the *form* of a nominal expression and the range of meanings it is compatible with is a non-trivial task even within a single language, and markedly more complicated when we look across languages. Imagining the space of nominal meanings as a continuum, this task may be construed as one that demarcates possibly overlapping regions of the continuum expressible by one or other nominal form within and across languages. In crosslinguistic studies, it is often assumed that identical meaning demarcations are instantiated across languages, even if they are not mapped to overtly distinct lexical forms in all of them. For example, some recent accounts take both German and English to express (at least) two types of definite meanings: a uniqueness-based meaning and an anaphoric one, though German alone overtly distinguishes between the forms expressing these two meanings [22] while English employs the for both [1, 19].

So-called *article-less* languages that lack overt counterparts of articles corresponding to English the and a pose a unique challenge to the crosslinguistic form-to-meaning mapping task. On the one hand, it appears that article-less 'bare' nominals in these languages span across demarcations in the 'nominal meaning continuum' alluded to above, in that they are capable of expressing both existential and definite-like meanings (e.g., [6, 9, 10, 11, 16]), translatable using English a and the respectively. On the other hand, both their existential and definite-like uses have been crosslinguistically noted to be more limited when compared to English counterparts a and the respectively (e.g., [18, 19, 1, 2, 4, 3] i.a all note the limited definite interpretations of bare nominals in various languages when compared to English the; [9, 10, 13, 7] i.a note that the existential interpretations of bare nominals are restricted to narrow scope unlike English a). It is thus a challenge to precisely map out and explain the range of occurrences of the bare nominal in its various senses, especially in comparison to its crosslinguistic counterparts.

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¹Bare nominals are also generally compatible with kind readings in *article-less* languages, but here we will focus our attention only to episodic contexts that do not license kind interpretations.

Historically, the study of the definite-like uses of bare nominals has tended to be carried out separately from its existential uses, with studies focusing either on what makes the bare nominal unable to interpreted as a definite description in certain contexts where the is licensed, or on the differences between the indefiniteness potential of the bare nominal compared to a, but not both at once.² In the current paper, I too will focus on the distribution of bare nominals in their definite-like uses, though the conclusion I will defend is that this investigation cannot be fruitfully carried out while completely neglecting their existential uses. In other words, while confining ourselves to examining where the definite article the (but not a) is licensed makes sense in the study of definiteness marking in English, it is less clear that this is a cogent move in article-less languages – which do not themselves make this distinction. Instead, I will argue, it is more constructive to move away from assumptions that stem from an English-like picture in investigating bare nominals in article-less languages.

The question of the distribution of definite-like uses of bare nominals has generated much discussion in recent semantic work. In particular, it has been noted that definite interpretations of bare nominals are limited in anaphoric contexts when compared to English *the*, as seen in the Mandarin example (1) below taken from [19]:

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(1) Jiaoshi li zuo zhe yi ge nansheng yi ge nüsheng. Wo zuotian yudao classroom inside sit PROG one CL boy one CL girl I yesterday meet #(na ge) nansheng.

(that CL) boy

"There is a boy and a girl sitting in the classroom. I met the boy yesterday."
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([19]: ex. 15a-b

Though several proposals have been advanced to explain what restricts the definite interpretations of bare nominals in cases like (1), none of these quite paints the full picture, as I discuss in Section 2. In Section 3, I locate a common (often implicit) assumption made by all these accounts as the source of their shortcomings: namely, one of ambiguity in the bare nominal in whether it expresses an existential or definite-like meaning. I discuss some of the (arguably nonideal) methodological and analytical impacts of this assumption on the study of (in)definiteness in the bare nominal. Following this, in Section 4, I advocate an alternative analysis of the bare nominal in which it is underspecified for (in)definiteness. Section 5 concludes.

2 Existing Analyses

The limited definite-like uses of bare nominals in anaphoric contexts as in (1) has been noticed not only for Mandarin, but also for several other *article-less* languages: Thai [18], Hindi [11], Akan [3], Korean [1, 2], Kannada [24, 23] *i.a.* In this section, I discuss two types of explanations proposed to account for such anaphoric variability, and discuss some problems they run into.

Jenks 2018. Inspired by the ideas in Schwarz (2009) that languages can separately instantiate (and potentially overtly distinguish between) uniqueness-based and anaphoric definiteness, [19] advances an analysis of definiteness in Mandarin whereby the definite meanings arising with article-less 'bare' nominals are uniqueness-based, while the demonstrative form in this language instantiates anaphoricity. Such a proposal finds tangential support in the observation that definite readings of Mandarin bare nouns are limited in anaphoric contexts in comparison to the (taken to be ambiguous between the uniqueness and anaphoric meanings), but it does not

²Dayal's work on Hindi bare nouns (Dayal 1992, 1999, 2004, 2011) is arguably an exception to this generalization. Her work provides one of the first detailed descriptions of bare nominals in an *article-less* language. As such, she discusses data corresponding to the full range of their uses, though her analysis is focused on the relationship between the kind and existential uses of the bare nominals and less so on their definite-like uses.

directly account for why the bare nominal is not independently licensed by the existence of a unique boy in the discourse context of (1), regardless of anaphoricity.

To altogether rule out the definite reading of the bare noun in (1),[19] proposes a specialized constraint *Index!*, based on *Maximize Presupposition!* [15], by which the anaphoric demonstrative form associated with a stronger presupposition *must* be used when licensed, to the detriment of definite bare nominals in these contexts (barring a stipulated exception when the bare noun is the sentence-initial 'Topic'). However, *Index!* proves too strong to capture the actual distribution of bare nouns in Mandarin – as discussed in recent responses by [12] and [4]. Both responses note that Mandarin bare nouns in non-sentence-initial positions do receive definite interpretations in many naturally occurring anaphoric contexts; see for instance (2):

(2) Jiaoshi li zuo zhe yi ge nansheng yi ge nüsheng. **nüsheng** zuo zai classroom inside sit PROG one CL boy one CL girl girl sit DUR **nansheng** pangbian.

boy side

"There is a boy and a girl sitting in the classroom. The girl was sitting next to the boy."

([12]: ex. 12a-b)

Bremmers et al. 2021. Following a corpus examination of the contexts in Mandarin where bare nominals can and cannot receive definite interpretations, [4] argue for a hypothesis that distinguishes two types of anaphoric (or familiarity-based) definiteness meanings across languages: the standard notion of text-level familiarity where the antecedent has been previously introduced as part of the discourse, and a stricter notion of situation-level familiarity where the antecedent has been previously introduced in the same situation as the subsequent mention. In particular, they propose that Mandarin bare nouns receive definite interpretations in contexts that instantiate situation-level familiarity — but text-level familiarity does not suffice on its own. Overall, their view of Mandarin bare nouns is that they are "ambiguous between weak and strong definites, with the latter restricted to situation-level familiarity."

The view espoused in [4] accounts for the Mandarin data points (1) and (2) in the following way. In (1), the bare nominal nansheng ('boy') in the second sentence is situated yesterday, but the antecedent boy was introduced in a separate classroom situation. In this case, while text-level familiarity holds, the shift in the situations that the two sentences are about results in a violation of situation-level familiarity. As such, the bare nominal does not receive a definite interpretation. By contrast, in (2), the subsequent sentence containing the bare nominal continues to describe the classroom situation in which the antecedent was introduced, thus satisfying situation-level familiarity and thereby permitting a definite interpretation.

In its ability to anticipate and concretely explain the contrast between these two examples in Mandarin, this account is superior to its predecessors. Moreover, the core idea behind this proposal – that the anaphoric interpretation of the bare nominal is sensitive to the identity of the sentential situation – is likely to be on the right track.⁴ However, we take issue with the specific implementation of this idea by these authors, whereby a new crosslinguistic sub-type of definiteness is introduced. For one thing, the standard universality assumption, according to which identical meaning distinctions are underlyingly present in every language even if not

³[2] presents a different analysis of the anaphoric variability of bare nominals, but resembles [19] in positing a categorical economy constraint in which a more economical form competes with the bare nominal in anaphoric contexts (in that case, the simplex pronominal form) and completely rules it out in some languages.

⁴[12] also favor a situation-sensitive semantics for the Mandarin bare noun, though they refrain from fully developing it due to their view that "further theorizing has to wait till we have more data to formulate sound empirical generalizations on". The current work does not disagree with the spirit of their conclusion, but only presents an alternative framework for hypothesis formation in future empirical work.

overtly distinguished, predicts that situation-level familiarity *must* be instantiated in every language. However, in a language like English where the weaker notion of text-level familiarity suffices to license *the*, claiming that *the* further corresponds to situation-level familiarity is entirely redundant as contexts that instantiate situation-level familiarity also entail text-level familiarity. Alternatively, to say that English does not instantiate situation-level familiarity violates the universality assumption, potentially permitting a proliferation of crosslinguistic definite meanings only subsets of which are realized in each language.⁵

Furthermore, if the Mandarin bare noun is ambiguous between a uniqueness and a situational familiarity meaning, it is unclear why a uniqueness-based definite interpretation of the bare nominal in (1) cannot independently arise, since uniqueness in the discourse context is ostensibly satisfied, even if situation-level familiarity is not. As discussed in [22] (ex. 49-50), such contexts can license the uniqueness-denoting form of the definite article in German. Finally, the categorical nature of situation-level familiarity as discussed by [4] predicts the definite reading of the bare nominal to be unavailable whenever there is a shift in the antecedent vs. subsequent situations. However, in some article-less languages like Kannada, the definite reading of the bare nominal is significantly (though not categorically) improved despite a shift in the narrative situation if there is enough salient context surrounding the antecedent in prior discourse:

Nenne aDigemane-alli ondu ili ooDaaDutta ittu. Adu nooDakke tumbaa (3)Yesterday kitchen-in one mouse roaming was it to.see muddaag-ittu. Adara moogina hattra chikka macche ittu. Ivattu cute-be.PST itsnose-GEN near small birthmark be.PAST today baccalamane-alli kooDa ?ili kaaNisitu. mouse seen.CAUS bathroom-in too'Yesterday, in the kitchen, I saw a mouse_k. It was really cute. There was a small birthmark near its nose. Today in the bathroom too, the mouse_k was roaming around.'

3 A Deep Assumption of Ambiguity

The goal of this section is to elucidate a common working assumption underlying existing approaches to explaining the distribution of definite-like bare nominals: that the existential and definite-like meanings arise through independent considerations. In other words, the bare nominal is assumed to be practically ambiguous between its (in)definite meanings. This assumption is often not explicitly stated, and perhaps not even intended by the authors in its crudest sense where there are distinct entries in the mental lexicon corresponding to the existential and definite-like bare nominals. Nevertheless, two key reflections about the methodology adopted and the nature of analyses proposed in these works give its lurking presence away.

First, studies on definiteness in the bare nominal, including the ones considered in Section 2, restrict themselves to contexts that license the definite article in languages like English but not the indefinite one, despite no evidence internal to the article-less language under study itself that such contexts should be separated analytically – the reverse, if anything, seems to be the case with respect to these languages. I suggest that such a solely comparative approach to the definite-like uses of bare nominals limits how far we can get in explaining their full distribution. It is perhaps helpful as a point of comparison to consider that the study of English the has suffered no such disadvantage, and plentiful (attempts at) unified alternatives to the semantics of the definite article that span across their various uses 6 exist alongside the

⁵While there is no inherent inconsistency in a world where a strong version of universality is false, it diverges from what is standardly assumed in the literature, and needs thinking through all its consequences.

⁶with the exception of weak definites; see for example, [5]

recent ambiguity view that there are two 'the's, one instantiating uniqueness and the other familiarity. By contrast, no serious unified hypothesis for the bare nominal exists that spans across its existential and definite-like uses in episodic contexts.⁷

On the analytical side, treating the existential and definite-like uses of bare nominals as entirely separate – a treatment warranted under an ambiguity-based view – necessitates positing specialized constraints to independently rule out definite interpretations in anaphoric contexts before the indefinite meaning can arise. In other words, the ambiguity assumption together with a constraint like *Maximize Presupposition!*, precludes an explanation in which the *stronger*, definite sense of the bare nominal directly competes with the presupposition-less indefinite sense and loses (cf. [8]). Such categorical and independent constraints are exactly what we find in existing proposals. including *Index!* in [19] and the notion of situation-level familiarity in [4].

4 An Underspecified Bare Nominal

If we abandon the independence assumption and instead adopt the view that bare nominals are underspecified for (in)definiteness⁸, an account where the two senses compete more equally is now open to us, where the indefinite sense may be naturally preferred in certain contexts. In this proposal, which of the two meanings is obtained depends on the outcome of a probabilistic, context-sensitive process I sketch below, which only uses an independently motivated view of domain restriction in addition to the underspecification assumption. Crucially, an underspecified bare noun does not lexically specify any presuppositions, making Maximize Presupposition! inapplicable, so that the indefinite and definite meanings can battle it out on a par.

Assuming, as is standard, that the bare nominal introduces an abstract discourse referent (or index), I follow [14] in mapping indices to entities drawn from potentially different types of value sets. In this framework, underspecification can be implemented as uncertainty in the value set to which the index introduced by the bare nominal is mapped. Specifically, an underspecified bare noun allows consideration of singleton value sets – defined over distinctly identifiable, hearer-old entities in the discourse context $\{x_i\}, \{x_2\}, ..., \{x_h\}$ as well as a nonsingleton value set that includes hearer-new entities satisfying the nominal's descriptive content $\{x_{h+1}, x_{h+2}, ..., x_m\}$. This is in contrast to expressions associated with lexical uniqueness-based or determined reference presuppositions [14], like English the (or the bare nominal under an ambiguity view that is lexically specified for definiteness), which can only map to entities in singleton value sets⁹. The choice of the value set in the current view depends on the probability that a member of the set is present in the domain in which the bare nominal is interpreted: i.e., the topic situation of the sentence containing it (cf. [22]). To implement these ideas concretely, we can define a probabilistic computational model based on [17], which incorporates uncertainty about the identity of the situational domain restriction along with uncertainty about the value set in natural discourse scenarios:

⁷Even [11], which presents the most comprehensive discussion of the various uses of the (Hindi) bare nominal, indirectly separates the definite-like uses of the bare nominal from its existential uses. Bare nominals are ambiguous between definite and kind readings in her account, and existential readings are claimed to stem from the kind version of the bare nominal in episodic contexts.

⁸The proposed view most resembles the one suggested in [16], that the bare nominal instantiates only the indefinite meaning, which can be pragmatically strengthened to a definite meaning in appropriate contexts. Note however that we conceptualize the bare nominal as unspecified for (in)definiteness, not inherently indefinite.

⁹In [14], only those contexts are considered that make available a unique *salient* singleton set. In contexts containing more than just one comparably salient singleton set, a similar topicality-based inference process to the one described here for bare nominals may be needed to zero in on a particular choice of value set even in English. In such cases, we might expect to see gradient reference resolution behavior: see [25] for a presentation of such experimental data and related discussion.

(4)
$$P(x_j \mid \mathcal{RE}, \mathcal{C}) = \sum_{i=1}^n p(s_i) P(x_j \mid \mathcal{RE}, \mathcal{C}, s_i)$$

(5)
$$P(x_j \mid \mathcal{RE}, \mathcal{C}, s_i) = \frac{\llbracket Q(x_j) \rrbracket \operatorname{In}(x_j)(s_i)}{\sum_{k=1}^m \llbracket Q(x_k) \rrbracket \operatorname{In}(x_k)(s_i)}$$

According to (4)-(5), when a bare nominal \mathcal{RE} is uttered in a context \mathcal{C} , we jointly estimate how likely a particular situation s_i is to be the topic situation $p(s_i)$, and how likely a referent x_i belonging to a singleton or non-singleton value set is to be the intended referent $P(x_i)$ $\mathcal{RE}, \mathcal{C}, s_i$). The latter term is further composed of two components: (i) $[Q(x_i)]$, denoting whether x_i satisfies the descriptive content Q of the nominal, and (ii) $0 \leq \text{In}(x_i)(s_i) \leq 1$, denoting the extent to which we expect x_i at that point in the discourse to be present in the situation s_i . This expectation is estimated on the basis of common sense and world knowledge based reasoning. For example, in (1), it is a priori unclear that the boy in the classroom was also present in yesterday's situation described in the subsequent sentence, so that the expectation of his being present in yesterday's situation is low. Other discourse-contextual factors play into estimating the probability $p(s_i)$ with which a situation s_i is the topic situation. Specifically, I adopt the view, following [22], that situational topicality is determined based on the Question Under Discussion (QUD; [21]), which in turn depends on certain discoursestructural cues such as whether the referent has been previously mentioned and the frequency of its mention, and grammatical cues such as word order and the presence of sentential adverbs. For instance, in (1), the topic situation for the sentence containing the bare nominal is set yesterday, indicated by the sentence-initial frame-setting adverb.

The present proposal resembles the one favored in [4] in its treatment of sentential situations as preferred domain restrictions in which the bare noun is interpreted. Indeed, the two accounts explain the data in (1)-(2) in much the same way – namely, by casting doubt on whether the hearer-old referent is a potential referent at all within the topic situation (while in the existing view, the hearer-old reading is categorically ruled out, the current account predicts it to lose to an interpretation where the bare nominal picks out a hearer-new referent). Notably, the underspecification-based proposal has an advantage in accounting for (3). The increased context around the mouse introduced in the first sentence in (3) increases the topic potential of the minimal situation surrounding this mouse, making it a viable candidate in this model to be the intended referent despite conflicting cues from the sentence-initial adverbial about the identity of the sentence situation. The gradient prediction made within the current proposal also aligns with the observation (for Mandarin) in [12], that "we are talking about preferences, not judgments of absolute (un)grammaticality". ¹⁰

5 Concluding Remarks

This paper presents an alternative framework for analyzing the crosslinguistic anaphoric variability of bare nominals that goes against the grain of existing proposals, wherein the bare nominal is underspecified for (in)definiteness readings rather than ambiguous. I have argued that such a framework opens up a new analytical strategy in which existential interpretations of the bare nominals compete directly with the definite-like interpretations – a strategy that is categorically ruled out in the absence of underspecification. More broadly, this proposal questions the validity of restricting our study of a linguistic form to a subset of its interpretations solely

¹⁰A question that arises is whether underspecification is in fact necessary to account for (3), or if it suffices to make the notion of *situational familiarity* in Bremmers et al.'s proposal a probabilistic one while otherwise retaining the ambiguity assumption. Notice however that the uncertainty in the referent's identity relies crucially on the simultaneous consideration of alternative, non-singleton value sets in the current model, which is independent of the uncertainty in the topic situation itself.

on the basis of a lexical distinction that exists in another language. The proposed model of reference resolution in an underspecified bare nominal can be used to make concrete predictions about speakers' behaviors in specific contexts, and therefore adds to the space of hypotheses to consider in systematic future empirical work, for which the time is now ripe. While the discussion in this paper has collapsed over bare nominals across *article-less* languages, future work should also seek to evaluate finer-grained language-specific distinctions among these items.

There are other crosslinguistic implications of an underspecified bare nominal. The idea that bare nominals are not lexically specified for (in)definiteness makes salient the possibility that the meanings denoted by a and the in English do not represent deep universal semantic distinctions. Instead, it may be that they contribute more peripheral and potentially defeasible meanings in specific languages (e.g., as presuppositions or implicatures rather than at-issue entailments; cf. [8]). In other words, it would not be surprising under this picture to find an overlap between the distributions of a vs. the, given that at least some of the meanings they convey are contributed by the same lexical item in other languages. Some such cases have already been noted in the literature, where the is interchangeable with a in denoting a non-uniquely identifiable, exceptionally narrow-scoping meanings: for example, in describing culturally stereotypical activities such as in "go to the hospital" or "listen to the radio" (weak definites: [5], or even good-enough descriptions like "the house next door": [20]). The idea that the semantic contribution specific to the is weaker in the sense of being more peripheral/defeasible presents a new strategy for analyzing weak definites – one where this contribution is either suppressed or trivially satisfied, but where the nominal otherwise retains its at-issue meaning across weak and regular uses.

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