

Stage/Individual-level Predicates, Topics and Indefinite Subjects¹

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Abstract. Unlike Erteschik-Shir (1997) and de Swart (1999), we argue that the so-called Davidsonian arguments both in stage-level and individual-level predicates are able to function as topics, namely, existential stage topics and generic situation topics, respectively, which conforms with the well-known definiteness topic constraint. These two types of topics, however, are available only when the Davidsonian argument is bound via different means: the former gets bound in the existential domain, while the latter is constrained by the generic operator. Concerning the situation variable constrainer in sentences with individual-level predicates, we argue that besides general additional information, like adverbials ‘usually’ in English, ‘tongchang’/‘yibande’, ‘yaoshi... jiu’ (if... then), etc, in Mandarin, bare NPs with kind-denoting and predicates denoting inherent property will help accommodate the generic operator, and thus a generic situation topic is available and sentences with indefinite subject NPs and individual-level predicates thus get licensed. As a consequence, we suggest that the necessary condition for the indefinite subject sentence should be that the indefinite subject NP is interpreted as specific or a stage topic/generic situation topic is available.

Keywords: stage/individual-level predicates, topics, indefinite subjects

1. Introduction

It has long been noted that the distribution of sentences with indefinite subject NPs is quite restricted, especially with respect to Mandarin Chinese which does not allow an indefinite NP to appear in the subject or topic position unless it is interpreted as specific (see Chao 1968, Li and Thompson 1981, Lee 1986, Tsai 2001, Xu 1996, among many others) or gets bound by an existential or a generic operator (Pan 2009). Some recent studies, however, claim that it is not correct to treat sentences with indefinite subjects uniformly without distinguishing between stage-level and individual-level predicates (Erteschik-Shir 1997, de Swart 1999), as shown by sentences from English (1)-(2) and Mandarin (3)-(4), which clearly shows that both these two languages allow sentences with the indefinite subject and a stage-level predicate, as in (1a) and (3a), but not sentences with the indefinite subject and an individual-level predicate, as in (1b) and (3b). However, when the subject is a bare NP, sentences with individual-level predicates are acceptable, as in (2b) and (4b), contrasting with the indefinite subjects in (2a) and (4a):

English

- | | |
|-------------------------------|------------------------------|
| (1) a. A man arrived | (stage-level predicate) |
| b. *A man is smart. | (individual-level predicate) |
| (2) a. *A dog is intelligent. | (indefinite NP) |
| b. Dogs are intelligent | (bare NP) |

¹ I thank professor Haihua Pan for discussions and suggestions on the very draft, as well as the final version of this paper. Also, I thank Dr. Yurie Hara and the anonymous PACLIC 24th reviewers for comments.

Mandarin

- (3) a. yi-ge nanhai zai henkuai de pao (stage-level predicate)
 one CL boy -ing very quickly DE run
 ‘A boy (outside) is running quickly’.
- b. *Yi-ge nanhai hen huopo (individual-level predicate)
 one-CL boy very lively
 ‘A boy is very lively’.
- (4) a. *Yi-ge nanhai ai yi-ge nvhai (indefinite NP)
 one-CL boy love one-CL girl
 ‘A boy loves a girl’.
- b. Nanfang ren xihuan chi mifan (bare NP)
 south people like eat rice
 ‘People in south like rice’.

Different approaches have been proposed to account for the contrast above, and no complete consensus, however, have been achieved on the necessary or sufficient conditions of sentences with indefinite subject NPs. Li (1997), concentrating on the semantic difference between DP and NumP (numeral phrase) subjects, proposes that both DPs and NumPs, corresponding to CPs and IPs in clause structures, can directly function as arguments. Li’s proposal thus makes a good predication that sentences like (5) are acceptable, which abounds in Mandarin and named as the pair-matching sentence in Lu and Pan (2009).

- (5) a. Liangzhang chuang ji le wuge ren.
 two`CL bed squeeze ASP five`CL people
 ‘Two beds were crowded with five people’.
- b. Wuge xiaohai chibuwan shiwan fan.
 five`CL child eat`not`finish ten`bowl rice
 ‘Five children cannot eat up ten bowls of rice.’

A problem for the so-called NumP assumption, however, is that it seems inadequate to cover a larger range of data, as shown in (6), in which the sentence (6b) with an individual-level predicate and numeral subject is unacceptable. Also, it does not explain the contrast between sentences with stage-level predicates and individual-level predicates, as demonstrated in (1)-(4) above.

- (6) a. Wuge xiaohai chibuwan na shiwan fan.
 five`CL child eat`not`finish those ten`bowl rice
 ‘Five children cannot eat up those ten bowls of rice.’
- b. *sange xuesheng hen xihuan Wangjiaoshou
 three-CL student very like Wang Professor
 ‘Three students like professor Wang very much’.

In this paper, adopting Erteschik-Shir’s (1997) insight that every sentence must have a topic which should be definite, specific or generic, we attempt to explore the necessary condition for indefinite subject sentences via distinguishing stage-level predicates from individual-level predicates.

2. Overview

2.1 Background: Stage-level Predicates vs. Individual-level Predicates

Carlson (1977) differentiates stage-level predicates from individual-level predicates, which has been widely reported to exist cross-linguistically and these two types of predicates behave differently on several aspects, as listed in (7)-(10) below, which shows that stage-level predicates are compatible with temporal adverbials, locatives, perception sentences and there-sentences, but individual-level predicates are not:

Temporal adverbials

- (7) a. *John was tall yesterday/last month/a year ago
 b. John was drunk yesterday/last month/a year ago

Locatives

- (8) a. *John is a linguist in his car
 b. John is always sick in France

Perception sentences

- (9) a. *I saw John a linguist
 b. I saw John drunk

There-sentence

- (10) a. *There are two men intelligent
 b. There are two men drunk

Basically, there are two competing approaches to the distinction between stage-level and individual-level predicates, and the central point of the debate lies in whether there is an external event/situation argument in the individual-level predicate, as the stage-level predicate does. Kratzer (1989/1995) argues that these two types of predicates differ from each other in having different argument structures, and only stage-level predicates have the so-called Davidsonian event argument in their argument structure. An important paradigm which Kratzer can easily explain on the basis of her hypothesis is the *when*-conditional sentence, as shown in (11) below, as the sentence (11a) with an individual-level predicate is unacceptable since there is no variable introduced by the predicate for the adverb of quantification (Q-adverb), which thus violates the vacuous quantification (Kratzer 1989/1995); whereas the sentence (11b) with a stage-level predicate can provide an extra free variable for Q-adverb, thereby no violation of vacuous quantification arises and the sentence is thus well-formed.

- (11) a. * When John knows Latin, he always knows it well.
 b. When John speaks Latin, he always speaks it well.

However, Chierchia (1995) proposes that both the stage-level and individual-level predicate have the Davidsonian event/situation argument, but the former differs from the latter in that the external event/situation argument in the latter is inherently bound by the generic operator induced in the predicate given. The assumption obviously has several advantages over Kratzer's operation. Firstly, Kratzer's (1989/1995) use of *when*-conditional sentences as a strong piece of evidence to her assumption is quite questionable, which should not be taken as a challenge to Chierchia's proposal. According to De Hoop and De Swart (1989), not all stage-level predicates are compatible with *when*-conditional sentences, and the problem of the contrast like (11) in fact lies in whether the situations denoted by the predicates can be iterated, as shown in (12), in which 'die', 'destroy' and 'kill' are typical stage-level predicates, *when*-conditional sentences with them, however, are unacceptable:

The analyses given by Erteschik-Shir (1997) and de Swart (1999) above, however, are quite problematic. First of all, they do not explain why sentences like (16a), cannot be interpreted as generic, as (16b) does. Suppose that a bare NP is kind-denoting, but not an ‘a/an-NP’, following Carlson (1977). However, the problem still remains since English, as well as Mandarin Chinese, is abundant in generic/kind denoting sentences with indefinite NPs and individual-level predicates, as shown in (18) and (19). Moreover, the question why a generic Davidsonian event argument cannot function as the generic topic, just as the generic NP does in (16b), is neither touched in Erteschik-Shir’s (1997) nor answered clearly in De Swart’s (1999).

- (18) a. An Italian is usually short.
 b. A cat usually chases a mouse. (Chierchia, 1995)

- (19) yi-ge nüren yaoshi jie-le hun, jiu hui xiang sheng haizi (Li, 2008)
 one-CI women if marry-ASP, so will want born child
 (generally speaking) a women will want to have a baby if she gets married.

Finally, both Erteschik-Shir (1997) and de Swart (1999) provide no explanation as to why a generic Davidsonian event argument cannot function as the generic topic, just as the existential *e* does (stage-topic in the sense of Erteschik-Shir’s (1997)), which is also true in Mandarin, as in (20), assuming that both types of predicates are Davidsonian, following Parson (1990), Chierchia (1995) and others.

- (20) a. *Beijing sanshige qingnian fangwen le Riben.*
 Beijing 30-MW youth visit LE Japan
 ‘Thirty youths from Beijing visited Japan.’
 b. *Ganggang, yige ren lai zhao ni.*
 just now, one-MW person come look-for you
 ‘Just now, someone came to look for you.’ (Lee, 1986)

3 Davidsonian *e/s*-binding(constrainer), Topics and Indefinite Subjects

In this paper, we attempt to explore the possibility that the so-called Davidsonian argument needs to be bound both in stage-level and individual-level predicates via adopting Chierchia’s insight that both stage-level predicates and individual-level predicates are Davidsonian. In other words, the so-called Davidsonian variable takes effect on the process of topicalization unless they are introduced into and get bound correctly via different means. Also, as far as the topicality is concerned, we’d like to suggest that both the bound Davidsonian event and situation argument function as a topic, which saves sentences with indefinite subjects from being unacceptable.

3.1 Stage-level Predicates: *e*-binding (constrainer)

The idea that the Davidsonian *e* variable must be bound as a matter of fact is not a novel one. Huang (1996/2005), based on Parson (1990), proposes the Hypothesis on Constraining the Event Argument (HCEA), which says that ‘the event argument (*e*-argument) introduced and carried by a syntactic predicate must be properly constrained by some morphologically or lexically overt elements, and only an overtly constrained *e*-argument is available for quantification at the first stage of interpretation’. Following Huang, I argue that tenses in English are able to play the role of *e*-binding or constrainer, as in (21); whereas in Chinese, some other appropriate elements serve to constrain

the e-argument, including time, location, aspects and manner adverbial phrases, etc, as in (22) below, since Chinese does not have tense (Hu, et al, 2001).

- (21) a. A man arrived
b. It is raining
- (22) a. (jintian shangwu,)yi-ge jingcha zhaoguo ni (Lu and Pan, 2009)
today morning one CI policeman come find ASP you
There is a policeman looked for you this morning
b. yi-ge xiaohai **zai henkuai** de pao (Xu, 1997)
one CI child -ing very quickly DE run
There is a child running quickly (outside)

3.2 Individual-level Predicates: s-binding (constrainer)

Concerning the individual-level predicates, the situation variables involved are also able to function as generic topics once they are bound by the generic operator. The accommodation of generic operator in natural languages, however, is much complicated. In this section, we attempt to discuss the cases with the generic operator accommodation both in English and Mandarin Chinese.

Roughly speaking, the simple present tense, adverbials like ‘usually’, ‘if/when-conditions, modalities, etc. in English can facilitate the accommodation of the generic operator, which then takes the s variable as argument and binds it, as regulated by the rule of the vacuous quantification (Krazter 1989/1995); therefore, the sentences in (23) with a generic topic are well-formed. Correspondingly, adverbials like ‘tongchang’, ‘yibande’ conditional connectives, like ‘ruguo’, modalities ‘yinggai’, etc, in Mandarin can serve to constrain the s variable in individual-level predicates, as demonstrated below.

- (23) a. A dog is **usually** intelligent
b. A cowboy **usually** carries a gun.
- (24) a. **Tongchang**, yi-tai paobuji keyi pao shinian.
usually, one-CI treadmill can run one year
A treadmill usually works for ten years.
b. **Yibande**, yige xihongshi hanyou 400cc Vc.
generally speaking, one-CI tomato contain 400cc Vc
Generally speaking, a tomato contains 400cc Vc.

Note that sentences with bare NP subjects and indefinite subjects, however, behave differently, especially when the predicates are individual-level. To be much more precise, additional information, such as adverbial quantifier ‘usually’ in English, ‘tongchang’/‘yibande’, ‘yaoshi... jiu’ (if... then), etc, in Mandarin, is necessary in sentences with indefinite NP subjects, but not in sentences with bare NP subjects, as shown in (25) and (26) below:

- (25) a. Dogs are intelligent.
b.*A dog is intelligent
c. A dog is usually intelligent
- (26) a. Wugui hen changshou.
turtle very long life
Turtles live long time

- b.*Yizhi wugui hen changshou
 one-CI turtle very long life
 A turtle lives long time
- c.Yizhi wugui tongchang hen changshou.
 one-CI turtle usually very long life
 A turtle usually lives long time

Comparing the sentences a and b in (25)-(26), one can see that the sole difference lies in the subject NP: bare NP or indefinite NP. Thereby we'd like to suggest that the key of the problem above lie in the genericity expressing. Following Carlson (1977) that bare NPs are kind-denoting, one can say that the default reading of sentences with bare NPs is the kind reading, which is thus compatible with genericity (modal universal), while an indefinite NP is not.

In addition, a sentence with the indefinite subject NP and individual-level predicate is acceptable when the property of the predicate given expresses the inherent property of the subject NP in the sense of Burton-Roberts (1977), which provides a good clue for the generic operator accommodation via the help of world knowledge. Therefore, sentences like (27), but not (28), are well-formed.

- (27) a. A beaver builds dams.
 b. A tomato contains Vc.
 c. A gentleman opens doors for ladies.
- (28) a. *A dog is intelligent
 b. *A boy loves a girl

The distinction between (27) and (28) above becomes quite sharp with respect to the test of 'to be' constructions, in which the properties denoted by the predicates are inherent part of the subject NPs. Note that sentences like (27) are changeable with 'to be' constructions, whereas sentences in (28) are incompatible with 'to be' constructions, as shown in (29) and (30), respectively.

- (29) a. A beaver builds dams.
 To be a beaver is to build dams
- b. A tomato contains Vc.
 To be a tomato is to contain Vc
- c. A gentleman opens doors for ladies.
 To be a gentleman is to open doors for ladies
- (30) a. *A dog is intelligent
 * To be a dog is to be intelligent
- b.*A boy loves a girl
 *To be a boy is to love a girl

3.3 Topics and Indefinite Subjects

So far, we have shown that both the stage-level and individual-level predicates have the so-called Davidsonian arguments which will take effect on the process of topicalization after they have been bound correctly. Precisely, the existential Davidsonian argument in sentences with stage-level

predicates functions as the stage topic, and the generic one in sentences with individual-level predicates is able to function as the generic situation topic. Assuming further that more than one topic is allowed in the topic area, although it is not necessary, NPs in the subject position thus can be a topic or a pure subject depending on the discourse consistency. If that is true, sentences without context are generally ambiguous with respect to the topic-comment configuration. Taking the following two sentences as an example, one can see that sentences like (31) and (32) have two distinguished topic-comment structures.

- (31) *zuotian, yige gongren cong chuankou diao le xialai.*
 yesterday, one-MW worker from window-seat fall LE off-come
 'Yesterday, a worker fell down from a window seat.'

Ambiguous: a. [zuotian]_T, [yige gongren cong chuankou diao le xialai]_{com}.
 b. [[zuotian]_{T1}, [yige gongren]_{T2}] [cong chuankou diao le xialai]_{com}. (specific)

- (32) *Dogs are intelligent:*

Ambiguous: a. [Top_s [dogs are intelligent]_{com}]
 b. [Top_s [Top_{dogs} [are intelligent]_{com}]]
 a'. $\forall_{Gen}(s) [\exists x \text{ dog}(x) \wedge C(x, s) \wedge \text{intelligent}(x, s)]$
 b'. $\forall_{Gen}(s)(x) [\text{dog}(x) \wedge C(x, s)] \rightarrow [\text{intelligent}(x, s)]$

In structure (31a), the temporal phrase serves as the stage topic, and the left of the sentence as a whole is the comment; whereas in structure (31b), both the temporal phrase and indefinite subject NP are topics. The sole difference between these two configurations is that the subject NP 'yi-ge gongren' (one worker) in the latter must be interpreted as specific to conform to the so-called topic constraint, but no such requirement for the former.

Similarly, sentences with individual-level predicates are also ambiguous with different topic-comment configurations, as shown in (32) above, in which the structure (a) takes the generic situation as the topic, and the left as a whole is the comment; whereas in the structure (b) both the generic situation and kind-denoting NP are topics, and the rest is the comment.

4 Conclusion and the Problem for Future Studies

Unlike Erteschik-Shir (1997) and de Swart (1999), we have shown in the sections above that the generic Davidsonian situation argument in sentences with individual-level predicates also can function as a topic, as the existential Davidsonian event argument does in sentences with stage-level predicates. This so-called Davidsonian event or situation argument, however, must get bound via different means before they take effect on the process of topicalization. Briefly, it is bound by the existential operator in sentences with stage-level predicates, and by the generic operator in sentences with individual-level predicates. Moreover, under the assumption that every sentence must have a topic, we also have uncovered the necessary condition for a sentence with an indefinite subject, namely that it is acceptable if the indefinite subject NP can be interpreted as specific, or a stage topic / generic topic is available.

One more question why the indefinite NPs in English and Mandarin behave differently with respect to genericity, however, remains unanswered in this paper. Roughly speaking, Mandarin tends to use bare NPs to express genericity instead of indefinite NP 'yi-CI N', which is normal in English; and the distribution of indefinite NP 'yi-CI N' in Mandarin is much restricted than that in English, as

shown in (31). The question, however, will not affect the solution we have presented above and we will leave it for future research

- (33) a. A tomato contains Vc
b. ?Yibande, yi-ge xihongshi hanyou fengfu de Vc
generally speaking one-Cl tomato contain richful DE Vc
b'. Yibande, xihongshi hanyou fengfu de Vc
generally speaking tomato contain richful DE Vc
Generally speaking, tomatoes are rich in Vc.

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