To Pronounce or Not to Pronounce: Locating Silent Heads in Chinese and English

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Abstract

We argue that functional categories, on a par with silent nouns (Kayne 2005), may exist in silent/unpronounced forms in syntax. Based on modifiers in the nominal domains, we provide a diagnostic for such silent projections. Our hypothesis is evidenced by two apparent NP-modifiers: *whole/zheng* and *same/tong*. We show that they should not be analyzed as modifiers of NP, but modifiers of nominal functional categories. The former modifier *whole/zheng* provides evidence that English, like Chinese, should have a projection of classifier, but unlike Chinese, such a classifier projection is unpronounced. The latter modifier *same/tong* indicates that Chinese can also have a silent definite article. The analysis therefore supports the hypothesis of uniform syntax.

Keywords

silent head, comparative syntax, classifier, determiner, NP-modifier

1. Introduction

In this squib, we extend the "silent noun" approach developed in R. Kayne's recent work (Kayne 2005, 2006, 2007, 2008, 2012, among others), and apply it to the comparative syntax between Chinese and English.[1] We shall study the nominal syntactic structures between the two languages, which appear to be very different on the surface structures. We argue that the surface differences are only deceptive, and the linguistic variations can simply be attributed to surface pronunciations (or silence) of functional heads, yet the underlying syntactic structures are uniform (Borer 2005, Li 1999, Liao and Wang 2011, Shi 2011, Simpson 2005, Tang 1990, among others).

We argue that the silent heads can be indirectly observed through the modifiers that are overtly present in both languages. Since modifiers cross-linguistically are often associated with specific functional heads (Cinque 1999, 2002), we are hence able to use modifiers as a diagnosis for possible silent heads. The logic behind our approach can be schematized in (1), which we shall refer to as the Entailment of Silent Presence (ESP):

(1)   **Entailment of Silent Presence (ESP)**
      If a modifier Y in Language A modifies an overt head X, then under identical syntactic-semantic conditions, the presence of Y in Language B should entail the "silent" presence of $\mathbb{X}$ in Language B:
      a. Language A: $[_{XP} [_{Mod} Y] X]$
      b. Language B: $[_{XP} [_{Mod} Y] \mathbb{X}]$ (where $\mathbb{X}$ is silent)

Specifically, we examine two modifiers: *whole* and *same* in English, which correspond to *zheng* and *tong* in Chinese, respectively. The former is associated with the functional projection of classifier (Cl), and the latter is associated with the projection of D. The squib is organized as follows. We begin with the syntax-semantics of *whole*/*zheng* in section 2. It is followed by an analysis of *same*/*tong* in section 3. Section 4 concludes our findings.

2. On *Whole* and the Silent Classifier

The adjective *whole* in English looks like a direct NP-modifier:[2]

(2)   a. The whole car is rusty.
      b. The whole class (of students) is smart.
      c. The whole time was difficult for John.

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[1]   For other related proposals on silent nouns/heads, see Riemsdijk (2002, 2005) and Sigurðsson (2004).

[2]   We restrict our attention to the adjective *whole* that brings about part-related readings (Moltmann 1997, 2005). The part-related *whole* triggers a meaning that looks into the part structure of its modified noun (see below). For the other use of *whole/(wan-)zheng*, which has a "whole-related" reading in examples like *whole milk, whole sugar, whole apples (vs. sliced apples)*, see Liao (2012) for details.

However, if *whole* were a NP modifier, it would be very puzzling why plural nouns cannot be modified by *whole*, while on the other hand, typical NP modifiers, such as color, size, or quality adjectives, etc., are immune from such a restriction. Witness the contrasts between (3) and (4):[3]

(3) a. *The whole cars are rusty (cf. Every car is rusty).
     b. *The whole students are tall (cf. Every student is tall).
     c. *The whole hours are long (cf. Every hour is long).

(4) a. red car(s)   b. big cat(s)   c. sharp knife(s)

Observing that the adjective *zheng* 'whole' modifies the classifier projection in Chinese, Liao (2012) argues that such a restriction on plural nouns displayed in *whole* NPs can be straightforwardly accounted for if it is assumed that English also has a classifier projection, but the classifier projection in English is silent/ unpronounced on the surface structure. This amounts to saying that English has an underlying syntax similar to Chinese. The following examples illustrate the syntactic behaviors of the modifier *zheng* in Chinese (Cl=classifier):

(5) a. Na   yi   zheng   tai   che   dou   hen   jiu.
         that one   whole   Cl   car   all   very   old
         'The whole car is old.'
     b. *Na   yi   tai   zheng che   dou   hen   jiu.
         that one   Cl   whole car   all   very   old

Liao (2012) incorporates the silent noun analysis in Kayne (2005, 2007), and assumes that a silent AMOUNT, corresponding to the mass-interpreted classifier in Chinese, is present in English nominal syntax, and it is the silent AMOUNT classifier that hosts the modifier *whole*.[4] Therefore, the syntax of *the whole car* contains a silent projection of AMOUNT between *whole* and *car*, as in (6a). The structure is analogous to Kayne's proposal of *a little* NP, as shown in (6b):

(6) a. the whole car = [the [whole AMOUNT [$_{NP}$ car]]]
         (where AMOUNT is the silent counterpart of Chinese classifier)
     b. a little water = [a [little AMOUNT] [$_{NP}$ water]]

The adjective *whole*, then, is not a direct NP modifier, but rather, it modifies the silent "classifier" in English. This analysis accounts for the signature properties of *whole/zheng*. First, the adjective *whole* has a distinctive property that triggers part-related readings of the modified nouns, so that the properties of the predicates

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[3] We do not consider the pluralia tantum like *scissors* and *pants*, which seems possible to be modified by the part-related *whole* (e.g. The whole pants were wet), but notice that "real" plural forms are not grammatical with *whole* (e.g. *The two whole pants were wet). This contrast may be due to the fact that the pluralia tantum actually contain some silent form, like A PAIR OF *scissors*, and A PAIR OF *pants*, and *whole* actually modifies the silent singular noun.

[4] For a detailed discussion on the mass-interpreted AMOUNT classifiers in Chinese, see Liu (2012).

are always distributed to the part-structures of the modified nouns (Moltmann 1997, 1998, 2005). Therefore, (2) can be paraphrased as below:

(7) a. Every part of the car is rusty.
     b. Every student in the class is tall.
     c. Every hour/minute/second is difficult for John.

Since Link (1983), it is generally assumed that part-structure is available in mass and plural expressions. The availability of part-structure in *whole*-NPs and the resistance against the plurality suggest that the nouns modified by *whole* be interpreted as mass expressions at LF. The classifier projection of AMOUNT, which is responsible for mass interpretation (see Kayne 2005, 2007), thus provides a clue for why "*whole* NPs" may have part-related readings. We can therefore capture Moltmann's semantic analysis in a syntactic way, and this syntactic difference is backed up by the behavior of *zheng* in Chinese since the part-related *zheng* always modifies a classifier. Second, the proposal that *whole* actually modifies a mass-interpreted classifier (or the silent AMOUNT in English) also explains why plurality is not compatible with *whole*, and why in Chinese, only a spurious numeral *yi* 'one' can be used in such expressions.[5]

Concluding the discussion on *whole/zheng*, we see that the syntax-semantic properties of *whole* can be well explained if we assume that the classifier is also covertly present in English, and *whole* actually modifies the covert AMOUNT classifier, on a same par with *zheng*, which modifies overt classifiers in Chinese.

3. On *Same* and the Silent Determiner

Section 2 deals with a case where the overt element in Chinese provides a hint for the covert presence of the same type of element in English. This section looks at a reversed situation, where the overt element in English suggests the covert presence of the same kind of element in Chinese. We shall look into the modifiers *tong* (and a related form, *xiang-tong*) in Chinese, which corresponds to *(the) same* in English. It is argued that *tong* should be analyzed as a modifier of an unpronounced definite article in Chinese (i.e., THE).

Same seems to be an adjective of NP in English, yet again, like *whole*, it does not behave like a typical one. For example, *same* requires the presence of *the*, as in (8):

(8) a. Their hats are *(the) same.
     b. Their hats are (*the) red/nice/round.

Additionally, consider the examples in (9) and (10). It is therefore plausible to assume that in English *same* forms an idiomatic chunk with the definite article *the*,

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[5] We shall assume that plurality is associated with count-interpreted classifiers (or the silent NUMBER in English; see Kayne 2005, 2007 and Liao 2012)

and *same* seems to occupy a different (and higher) structural position from other (typical) NP adjectives:

(9) a. John and Mary saw the/[??]a/*some/*every/*all same person.
     b. John and Mary share the/a/some/every/all big meal(s).

(10) The **same** three (*same) **brave** (*same) police officers broke into the room.

In Chinese, however, *same* displays freer distributions that show a more transparent and more interesting mapping in syntax-semantics. The same root √*tong* 'same' are shared by the two modifiers in use: *tong* and *xiang-tong*. Interestingly, their distributions are syntactically conditioned. While *xiang-tong* is used as a typical NP adjective (which requires an obligatory modifier marker *de*), *tong* is subject to a different distribution, which may only occur before the numeral-classifier sequence. Consider the following examples:[6]

(11) a. Zhangsan gen Lisi chuan **tong** yi tiao kuzi.
          Zhangsan and Lisi wear   same   one Cl   trousers
          'Zhangsan and Lisi wear the same pair of trousers.'
      b. Zhangsan gen Lisi chuan yi tiao **xiang-tong de** kuzi.
          Zhangsan and Lisi wear   one Cl   same   DE   trousers
          'Zhangsan and Lisi wear the same kind of trousers.'

Another property of *tong* is that it does not co-occur with a demonstrative or a quantifier, as in (12).[7] However, the resulting expressions are always definite. This can be evidenced by the contrasts between (13) and (14):[8]

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[6] For some speakers, *xiang-tong* can be used in the structurally higher position, and it is preferred when the numeral is anything other than *yi* 'one':

   (i) ?Zhangsan kan-jian xiang-tong (de) liang ge ren.
        Zhangsan   saw   same   DE   two   Cl person
        'Zhangsan saw the same two individuals.'

   Note that when *xiang-tong* appears in the higher position (as *tong*), it always brings about the token reading (see below for discussion). In this squib, we shall leave out this use of *xiang-tong*, and concentrate on the difference between the DP-level *tong* and the NP-level *xiang-tong*.

[7] The incompatibility is not always a semantic one, as *xiang-tong* can be used with demonstratives and quantifiers:

   (i) Zhangsan gen Lisi mai-le xiang-tong de zhe/na/mei/mou yi tai che.
        Zhangsan and Lisi bought same   DE this/that/every/some one Cl car
        'Zhangsan and Lisi bought the same car/all of the same cars/one of the same cars.'

[8] An anonymous reviewer notes that *tong* may also refer to "type" information in expressions like *tong yi men ke* 'the same course.' It may mean the same class, or different courses with the same title. We believe that this kind of "type" reading is a different one from what we are discussing in this paper, and such a "type" reading actually comes from the title-copy ambiguity. Therefore, when we say, Zhangsan and Lisi selected [*tong yi men ke*] 'the same course.' It can mean the same course title, which can actually be token information (among different course titles, Zhangsan and Lisi select *that one*). To avoid confusion, we shall not use nouns with title-copy ambiguities in this paper.

(12) a. Zhangsan gen Lisi yang-le   (*zhe/*na/*mei/*mou) tong yi   zhi mao.
    Zhangsan and Lisi raise-Asp this/that/every/some   same one Cl cat
    'Zhangsan and Lisi raise the same cat.'
  b. Zhangsan gen Lisi yang-le   tong (*zhe/*na/*mei/*mou) yi   zhi mao.
    Zhangsan and Lisi raise-Asp same this/that/every/some   one Cl cat

(13) a. Tong   yi   ge   ren   lai-guo.
    same   one Cl   person come-Asp
    'The same person came here before.'
  b. Wo   jiao-guo   tong   yi   ge   hen   congming   de   xuesheng.
    I   teach-Asp same   one Cl   very smart   DE   student
    'I taught the same student, who was very smart.'

(14) a. *You   **tong   yi   ge   ren**   lai-guo.
    have   same   one Cl   person come-Asp
    (cf. (13a))
  b. *Wo   jiao-guo   **tong   yi   ge   xuesheng**   hen   congming.
    I   teach-Asp same   one Cl   student   very smart
    (cf. (13b))

The sentences in (14) are ruled out by the Definiteness Effects (see Huang 1987 for discussion), showing that the *tong*-NPs are indeed definite expressions.

Finally, on a par with demonstratives and quantifiers (i.e., D-level elements) in (15b), and unlike typical modifier phrases in (15c), *tong* is able to license *one*-omission, as in (15a):[9,10]

(15) a. tong   (yi)   jian   yifu
    same   one   Cl   clothes
    'the same clothes'

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[9] One anonymous reviewer points out that in Cantonese, *one*-omission is not possible with *tung* (the counterpart of Mandarin *tong* in Cantonese):

(i) maai   zo   tung   *(jat)   gin   saam
    buy   Perfective same   one   Cl   clothes
    'bought the same clothes'

Please note that this contrast does not challenge our conclusion here. We believe the contrast is due to the fact that the *one*-omission rules do not work the same way in Cantonese as in Mandarin. Especially, in Cantonese, *one*-omission may occur in bare Cl-N subjects (Cheng and Sybesma 2005), which is impossible in Mandarin.

[10] An anonymous reviewer points out that *tong* is not compatible with *yi-xie* 'a few/some' in Chinese (e.g., **tong yi xie che* 'the same cars'). We notice, however, that *tong yi-xie* is largely improved in the following examples:

(i) Qing   ba   tong   yi-xie   xuesheng   zhao-lai.
    please BA   same   some   student   search-come
    'Please ask the same students to report here.'

It is not clear to us why there is such a contrast, but it appears that such a contrast is not syntactic.

   b. na/zhe/mei/mou   (yi)   jian   yifu
      that/this/every   one   Cl   clothes
      'that/this/every/some clothes'
   c. hongse-de   *(yi)   jian   yifu
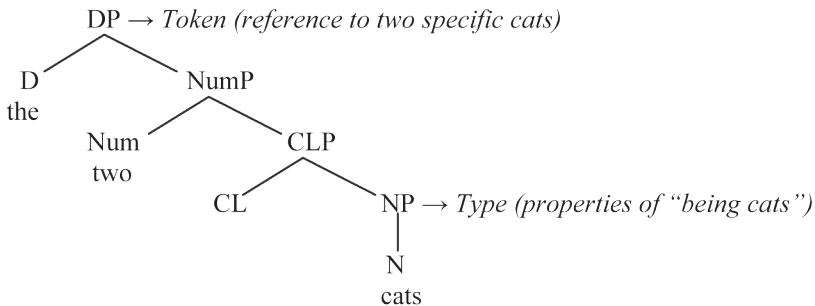   red-DE   one   Cl   clothes
      'a red clothes'

Besides the syntactic properties, there is also a notable difference between *tong* and *xiang-tong* regarding their readings. With respect to the type-token differences, *tong* always gives rise to a reading that refers to the same token (or the same object), while the NP-level *xiang-tong* tends to result in a reading with the sameness in type (or objects sharing the same properties). Such a contrast is strengthened in the following examples:

(16) a. Ni   gen   wo   shi   yi   ge   **xiang-tong**   de   ren.
      you and   I   be   one Cl   same   DE   person
      'You and I are the same type of person.'   (same type)
   b. #Ni   gen   wo   shi   **tong**   yi   ge   ren.
       you   and   I   be   same   one Cl   person
      'You and I are the same individual.'   (same token)

While (16a) is a perfectly normal sentence (referring to the same type), under normal circumstances, (16b) is considered very odd because such a sentence is used only when the speaker and the hearer refer to the same individual, i.e., the same token (e.g. uttered by a schizophrenic patient).

These subtle differences in readings, nevertheless, have a large impact on the universal syntactic structures of nominal expressions. In standard syntax-semantic theories, it is generally assumed that NP is the location bearing the meaning attributed to "type" readings (objects belong to the same properties), while the definite article in D is the locus responsible for the reference to "token" (Carlson 2003, Longobardi 1994, Vergnaud and Zubizarreta 1992, Zamparelli 2000, among others). The syntax-semantic mapping of the type-token distinctions can be illustrated as below:[11]

(17) Syntax-semantic mapping of the type-token distinction

          DP → *Token (reference to two specific cats)*

   D   NumP

  the

      Num   CLP

     two

         CL   NP → *Type (properties of "being cats")*
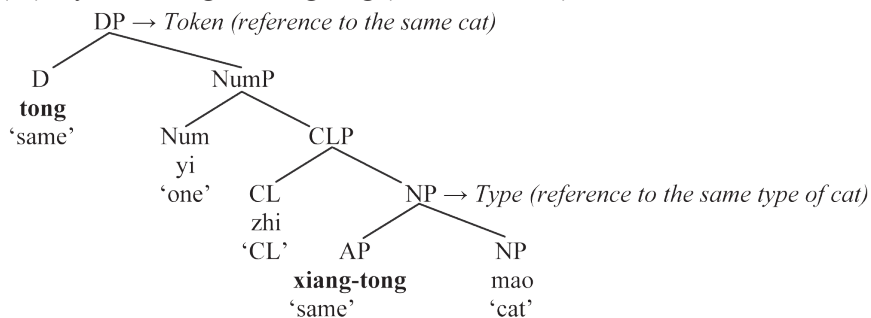
              N

             cats

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[11] Evidence for such a syntax-semantics mapping often comes from N-V compounds, where N alone is used:

(i)   a. bear-hunting   b. car-fixing   c. mind-blowing

These compounds refer to type readings of *bear*, *car*, and *mind*, rather than to specific tokens.
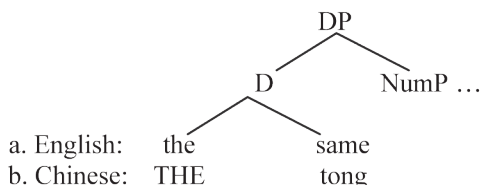
Interestingly enough, the syntactic distributions of *tong* and *xiang-tong* in Chinese transparently reflect such a syntax-semantic mapping structure:

(18) Syntax of *tong* vs. *xiang-tong* (to be elaborated)

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          DP → Token (reference to the same cat)
         /    \
        D      NumP
      tong    /    \
     'same'  Num     CLP
             yi      /   \
            'one'  CL      NP → Type (reference to the same type of cat)
                   zhi    /    \
                   'CL'  AP      NP
                     xiang-tong  mao
                       'same'    'cat'
```

Not only can such an analysis capture the syntactic distributions of *tong* and *xiang-tong* in Chinese, it also gives a transparent account for the type-token differences in readings. From a comparative cross-linguistic point of view, we may further assume, following the theory proposed in Kayne (2005) and Leu (2008) for demonstratives and similar elements, that the syntax of *(the) same/tong* involves a more complex structure that may contain a silent projection of THE in Chinese, with which the modifier *tong* forms a structural complex, hence the structure in (19):

(19) The complex structure of *the same/tong*

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                        DP
                       /   \
                      D      NumP …
                     / \
        a. English:  the    same
        b. Chinese:  THE    tong
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Under such an analysis, the definiteness of *tong* comes from the silent THE, and the root *tong* (on a par with *xiang-tong*) simply carries the meaning of "same" as its inherent lexical meaning. If such a proposal is on the right track, we may explain not only why *the same* in English forms a structural complex, but also why *tong* in Chinese has both the syntactic and semantic properties of a definite article (plus the meaning of "same").

4. Conclusion

Extending Kayne's theory of silent categories, we have conjectured an entailment rule (ESP) in (1), and have evidenced it with two cases that mirror each other in English and Chinese. From *whole/zheng*, we conclude that English may project a silent classifier in its syntax, and from *(the) same/tong*, we conclude that Chinese may also have a silent D position that holds the definite article. Combining the two, a uniform picture of universal nominal syntax is therefore obtained. Our findings therefore suggest a parametric view that linguistic variations can be boiled down to the choice of overt pronunciation or silence.

Acknowledgments

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此處無聲勝有聲：論漢語與英語的無聲中心語

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提要

本文採用 Kayne (2005) 的無聲名詞理論，並且進一步提出無聲成分在句法中能以功能詞形式出現。根據出現在名詞性領域的修飾語成分，本文提供了新的方法來診斷無聲中心語出現的位置，並且利用兩個名詞性的修飾語來驗證我們的假設："整 (whole)"跟"同 (same)"。我們首先指出這些修飾語不能夠被分析為名詞本身的修飾語，反而應當被分析為出現在更高句法位置的功能詞的修飾語。第一個修飾語"整 (whole)"提供了證據指出，如同漢語，英語的句法應當會投射量詞的中心語，並且這個中心語是一個無聲的功能詞。另一方面，"同 (same)"提供了相對稱的證據指出，與英語一致，漢語在功能詞結構中會投射一個無聲的限定詞中心語。本文的分析因此支持了普遍句法的假設。

關鍵詞

無聲中心語，比較句法，量詞，限定詞，名詞性修飾語