# Shanghainese: the Case of the Lonely DP

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## 1  Introduction

Shanghainese is a language spoken in northern China, mainly in Shanghai and the surrounding regions. It is a dialect of Wu Chinese and is quite distinct from Mandarin, though the two languages share many similarities. Wikipedia estimates that there are 14 million speakers of Shanghainese, making it the most widely spoken of all Wu dialects.

This paper explores the possible word orders of Shanghainese with the purpose of discovering the underlying word order. The underlying word order of Shanghainese is not immediately clear because there is frequent alternation between SVO and SOV order in transitive constructions. This word order alternation has an analog in Mandarin that is well studied. In the past 50 years, there have been many proposals for what governs this word order alternation in Mandarin. In this paper, I show that the underlying word order is SVO, and I propose a novel explanation for this word order alternation in Shanghainese, which may bear on the debate in Mandarin.

## 2  The Puzzle

Shanghainese internal arguments surface in a number of different positions. In particular, direct objects in transitive constructions may either be realized in SVO order or SOV order. There are two possible SOV orders, one of which is shown in (1). This construction will be referred to as the NE-construction because it involves a particle NE before the object. This structure is also found in Mandarin but the particle is BA in Mandarin.

In these transitive sentences, Shanghainese uses telicity markers to imply completion of the action. These markers will be transcribed as TEL. In many of the examples, I will use *MM* and *M* to refer to male and female Shanghainese names *MingMing* and *Meijing*.

(1)    a.  MM tʃə kwaŋ lə   teko
            MM eat TEL   PST cake

    b.  MM ne teko tʃə kwaŋ lə
           MM NE cake eat TEL   PST

        "MM ate a cake."

These facts lead us to ask the following questions:

1. What is the underlying word order of Shanghainese?

2. What is the mechanism responsible for the alternative word order?

Possible answers to the above questions include:

1. Shanghainese is underlyingly SVO and SOV order is due to object shift.

2. Shanghainese is underlyingly SOV and SVO is due to verb shift.

3. Shanghainese has two fundamentally different options for argument structure and chooses each for different reasons.

This paper explores several phenomena in Shanghainese related to this word order alternation, eventually showing that Shanghainese is underlyingly SVO. Furthermore, this paper proposes that the word order alternation is the result of case-motivated object movement, and proposes a model of the distribution of telicity along the lines of Abels' *Anti-locality* (2003) and Pesetsky's *Exfoliation* (2016 Class Lectures).

# 3  SVO vs. SOV

We first address the problem of the underlying word order of Shanghainese because our analysis of the NE-construction depends on how we define the underlying structure. A possibility is that Shanghainese is underlyingly SVO and the object moves to form the NE-construction. A second possibility is that Shanghainese is underlyingly SOV and that verb raising allows for SVO sentences. A third possibility is that there is no mechanism responsible for converting a base structure into the NE-construction, but rather Shanghainese simply generates the NE-construction sometimes.

Shanghainese has a phenomenon of classifier stranding that may help us determine if object movement occurs in the NE-construction. Classifier stranding would be evidence of object movement if it were the result of an NP extracting out of a DP and leaving behind it's determiner[1].

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[1]This paper assumes a determiner analysis of classifiers.
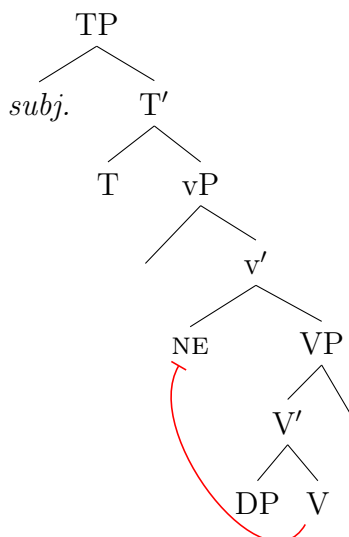
1. SVO ⟶ SOV
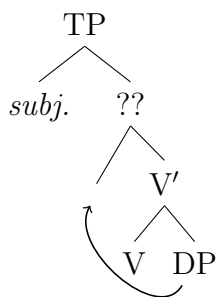
2. SOV ⟶ SVO

Figure 1: The first tree outlines the first possibility, that the NE-construction is the result of object movement. The second tree outlines the second possibility. There are probably many ways to model an underlyingly SOV system that involves verb raising to form SVO sentences. The one outlined in the second tree is similar to previous proposals. It involves an asymmetry across vP and VP with NE blocking raising from V to v (the red arrow with a flat end represents failure to move).

Shanghainese, like Mandarin, has a system of classifiers as determiners. Different categories of nouns have different classifiers associated with them, each meaning something like 'unit of <*noun*>'. In Shanghainese, these classifiers may be separated (or stranded) from their corresponding nouns. In many languages, classifier stranding is analyzed as an instance where the noun has moved out of the phrase, leaving behind the rest of the DP, which contains the classifier. However, in some languages, this phenomenon is analyzed as rightward qufier float (Q-float) in which classifiers may appear to be stranded, but are in fact attached initially at the rightmost edge of a phrase.

Our analysis for the underlying structure of Shanghainese depends somewhat on our analysis of classifier stranding in the NE construction. If we analyze classifier stranding as movement in this case, this could be evidence that Shanghainese is underlyingly SVO and that the SOV order is due to object shift. If the examples in (2) are instances of Q-float, then they are not necessarily evidence that the object has moved, and could be compatible with an underlying SOV structure.

(2)  a.  MM ne se tsə teko tʃə kwaŋ lə
        MM NE 3 CL cake eat TEL PST

   b.  MM ne teko tʃə kwaŋ lə  se tsə
       MM NE cake eat TEL PST 3 CL

   c.  * MM ne se tsə tʃə kwaŋ lə  teko
        MM NE 3 CL eat TEL PST cake

       "MM ate 3 cakes."

Classifier stranding can be seen in a variety of constructions, many of which are traditionally analyzed as movement.

(3)  Passives
   a.  se tsə teko pə MM tʃə kwaŋ lə
       3 CL cake by MM eat TEL PST

   b.  * teko se tsə pə MM tʃə kwaŋ lə
        cake 3 CL by MM eat TEL PST

   c.  teko pə MM tʃə kwaŋ lə  se tsə
       cake by MM eat TEL PST 3 CL

   d.  * se tsə pə MM tʃə kwaŋ lə  teko
        3 CL by MM eat TEL PST cake

       "3 cakes were eaten by MM."

(4)  Topicalization
   a.  * se tsə teko MM çjaŋjaŋ LL tʃə
        3 CL cake MM want LL eat

   b.  * teko se tsə MM çjaŋjaŋ LL tʃə
        cake 3 CL MM want LL eat

   c.  ? teko MM çjaŋjaŋ LL tʃə se tsə
       cake MM want LL eat 3 CL

   d.  * se tsə MM çjaŋjaŋ LL tʃə teko
        3 CL MM want LL eat cake

       "3 cakes, MM wanted LL to eat."

If we analyze passives and topicalization in Shanghainese as movement, it looks like it is at least possible for classifier stranding to be the result of movement. We now test for Q-float using unergative verbs. Unergative verbs are useful for testing Q-float for 2 reasons, 1) they are intransitive so there is no possible internal argument for the classifiers to attach to, and 2) the subjects are truly external arguments and not internal arguments that have moved. Therefore, classifier stranding with unergative verbs should be evidence of rightward attachment as opposed to the remains of movement.

4

(5)  a.  se ə  ʃoəniŋ ləlɘ kwəngoə
         3  CL child   at   sleep

     b.  * ʃoəniŋ ləlɘ kwəngoə se ə
           child  at   sleep     3  CL
         "3 children are asleep."

     c.  se ə  ʃoəniŋ ləlɘ tsəolu
         3  CL child   at   walk

     d.  * ʃoəniŋ ləlɘ tsəolu se ə
           child  at   walk   3  CL
         "3 children are walking."

     e.  se tsə tetəŋ ləlɘ tetsɨ kodə
         3  CL lamp is   table on(top)

     f.  tetəŋ ləlɘ (*se tsə) tetsɨ kodə   (*se tsə)
         lamp is   (3   CL) table on(top) (3   CL)
         "3 lamps are on the table."

It doesn't immediately look like Q-float is possible. However, (6a-b) show that a different version of examples (5a-b) actually do allow Q-float, but with the implication that the children are being put to sleep. This raises the possibility of an unaccusative construction, which is reinforced by the other examples in (6)[2].

(6)  a.  se ə  ʃoəniŋ kwənzə *(lə)
         3  CL child   sleep    (TEL)

     b.  ʃoəniŋ kwənzə se ə
         child   sleep    3  CL
         "3 children fell asleep (because I made them fall asleep)."

     c.  se tsə petsɨ pu    tə   lə
         3  CL cup   break TEL PST

     d.  petsɨ pu    tə   lə   se tsə
         cup   break TEL PST 3  CL
         "3 cups broke."

     e.  se diɔ zyə   səŋ  tə   lə
         3  CL boat sink TEL PST

     f.  zyə   səŋ  tə   lə   se diɔ
         boat sink TEL PST 3  CL
         "3 boats sank."

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[2]Example (6a) is an example of *lə* leading a magical aspectual life. This will be alluded to later.

It looks like Q-float is only possible with unaccusative verbs. Since unaccusative verbs are traditionally analyzed as object raising, this is evidence that classifier stranding is only possible as a result of object movement! As further evidence of this, we see there is no Q-float available for indirect objects in high attaching PP's.

(7)   * M pə osan    ne teko tsu    ho  lə    se ə
        M for student NE cake make TEL PST 3  CL
      "M made a cake for 3 students."

Since Q-float is not available in Shanghainese, classifier stranding in the NE-construction (as in (2)) must be the result of object movement. This is direct evidence that Shanghainese is underlyingly SVO, and that the NE-construction forms through object movement.

# 4   But what are the SOV orders about?

We have now established that Shanghainese is SVO. However, there are two prevalent SOV constructions in Shanghainese. One of them is the NE-construction, but the other one doesn't involve NE. This section compares these two orders to determine if the object surfaces in the same position in each, or if they are distinct structures. If they are distinct structures, the analysis of the NE-construction doesn't need to predict the other structure.

I will show that this construction is fundamentally different from the NE construction. Since this other SOV order is constructed with a pause between the subject and object, I will call it the *pause construction*.

(8)   NE vs. Pause Construction
      a.  MM ne  teko tʃə kwaŋ lə
          MM NE cake eat TEL   PST
      b.  MM (pause) teko tʃə kwaŋ lə
          MM (pause) cake eat TEL   PST
          "MM ate a cake."

Shanghainese speakers have the intuition that the pause construction is most naturally used to answer a *Who bought what?* question. The NE-construction on the other hand, is a normal transitive construction for telic verbs. Furthermore, the pause construction focuses the subject.

We check for the objects' surface positions in each structure by studying negation and adverb placement. We see that the NE-construction and the pause construction are different structures.

(9) Negation Placement

    a. MM **ma** ne teko tʃə kwaŋ lə
       MM **neg** NE cake eat TEL PST

    b. * MM ne teko **ma** tʃə kwaŋ lə
        MM NE cake **neg** eat TEL PST

    c. MM (pause) teko **ma** tʃə kwaŋ lə
       MM (pause) cake **neg** eat TEL PST

      * MM (pause) **ma** teko tʃə kwaŋ lə
        MM (pause) **neg** cake eat TEL PST

      "MM didn't eat the cake."

(10) Adverb Placement

    a. MM **memetʃo** tʃə kwaŋ lə teko
       MM **slowly** eat TEL PST cake

    b. MM **memetʃo** ne teko tʃə kwaŋ lə
       MM **slowly** NE cake eat TEL PST

    c. MM ne teko **memetʃo** tʃə kwaŋ lə
       MM NE cake **slowly** eat TEL PST

    d. MM (pause) teko **memetʃo** tʃə kwaŋ lə
       MM (pause) cake **slowly** eat TEL PST

    e. * MM (pause) **memetʃo** teko tʃə kwaŋ lə
        MM (pause) **slowly** cake eat TEL PST

    f. * MM **memetʃo** (pause) teko tʃə kwaŋ lə
       MM **slowly** (pause) cake eat TEL PST

      "MM slowly ate the cake."

Negation and adverb placement show that the object in the pause construction surfaces higher than in the NE construction. One possibility is that in the pause construction, the subject occupies a high Focus P while the object occupies a Topic P, both surfacing above the TP. Further evidence for this proposal is that switching the subject and the object in the pause construction suddenly gives a contrastive topic reading to the subject.[3]

(11) Contrastive Topic

    a. MM (pause) teko tʃə kwaŋ lə
       MM (pause) cake eat TEL PST

      "**MM** ate a cake." (MM is focused.)

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[3] One thing that is odd about this is that the object doesn't normally have contrastive reading in that position. In the original pause construction, in order for the object to have a contrastive topic reading, it must be stressed. However, it still makes sense that it could occupy a Topic P without having a contrastive reading.

b. teko (pause) MM tʃə kwaŋ lə
   cake (pause) MM eat TEL   PST

   "*MM* ate a cake." (MM is contrastive topic.)

c. MM (pause) *teko* tʃə kwaŋ lə
   MM (pause) cake eat TEL   PST

   "MM ate *a cake*." (Cake is contrastive topic.)

However, since this construction can be used to answer a *Who bought what?* question, it is also possible that both front to a Focus P. The examples in (12) test this by replacing the subject and object with wh-words.
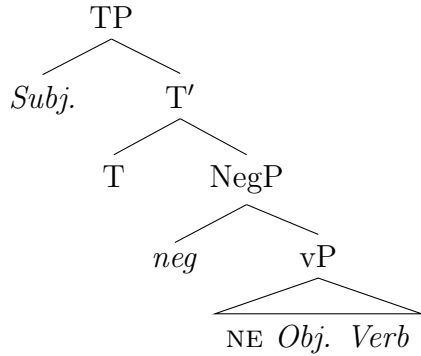
(12)   Wh Questions

a. MM ne sa     tʃə kwaŋ lə
   MM NE what eat TEL   PST

b. * MM (pause) sa     tʃə kwaŋ lə
     MM (pause) what eat TEL   PST

   "What did MM eat?"

c. saniŋ ne teko tʃə kwaŋ lə
   who   NE cake eat TEL   PST

d. saniŋ (pause) teko tʃə kwaŋ lə
   who   (pause) cake eat TEL   PST

   "Who ate the cake?"

e. saniŋ ne sa     tʃə kwaŋ lə
   who   NE what eat TEL   PST

f. * saniŋ (pause) sa     tʃə kwaŋ lə
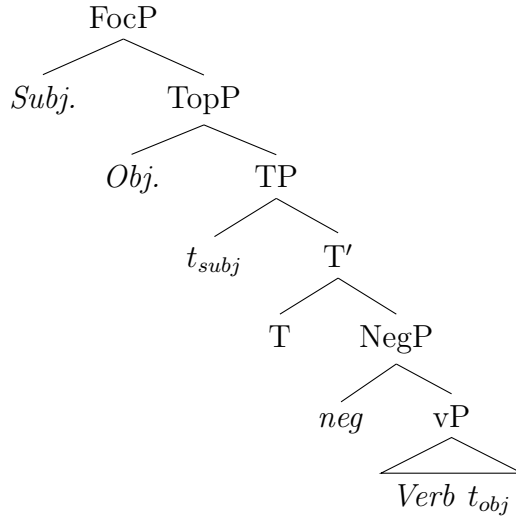     who   (pause) what eat TEL   PST

   "Who ate what?"

We see that while the subject can be replaced by a wh-word in the pause construction, the object never can (this is not true for the NE-construction). If both the subject and the object were double projections of a Focus P, we would expect them both to be wh-able. As this is not the case, we follow the claim that the subject is in a Focus P and the object is in a Topic P.

Below are some possible trees outlining the differences between the constructions. The pause construction does not tell us much about the verbal structure or the underlying word order. However, negation placement tells us that the NE construction places the object fairly low, probably somewhere in the vP domain.

a. The NE Structure

```
          TP
        /    \
     Subj.    T'
            /    \
           T     NegP
                /    \
              neg    vP
                    /  \
                  NE  Obj.  Verb
```

b. The Pause Structure

```
            FocP
          /      \
       Subj.     TopP
               /      \
             Obj.      TP
                     /    \
                  t_subj   T'
                         /    \
                        T     NegP
                             /    \
                           neg    vP
                                 /   \
                              Verb   t_obj
```

There is a remaining problem with this analysis of the pause construction. Viewing the object as being in a TopP predicts that the object should refer to a specific item in the context. However, this is not the case. The pause construction can take non-specific objects and mass nouns as well (e.g. *MM drank water, MM broke a cup, etc.*). Despite this, there is sufficient evidence that the NE-construction is both syntactically and semantically unrelated to pause construction. A more thorough description of the NE-construction will be given in the next section.

# 5    The NE Construction

The NE-construction has several features that distinguish it from other structures in Shanghainese. First, it is only acceptable when conveying a sense of completeness. It is most natural with resultatives and other telic transitive sentences. When used with stative verbs, the sentence suddenly takes on a meaning of *used to do X/is finished doing X*[4]. This sense of telicity is usually overt in that the NE-construction involves telicity markers after the verb. Regular SVO sentences can also have these telicity markers, though they are never obligatory.

(13)   a.  MM ne məŋ ke     lə
           MM NE door open TEL/PST
           "MM opened the door."

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[4]For some reason, some statives can be put in the NE-construction while others can't. The ones that can follow this generalization. However, I don't know why some statives are different from others in this respect. For example *MM owns a car* cannot be put in the NE-construction to mean something like, *MM used to own a car/MM is done owning cars.*

b. MM ne piŋ xu tə lə
MM NE ice melt TEL PST

"MM melted the ice."

c. MM ne pejtsɨ noŋ wa tə lə
MM NE cup make broken TEL PST

"MM broke the cup."

d. MM litʃja s:ujə ə
MM understand math ADJ

"MM understands math."

e. MM ne s:ujə litʃja ku ə
MM NE math understand TEL ADJ

"MM understood math." (but now doesn't understand it at all)

f. MM niŋtə M
MM know M

"MM knows M."

g. MM ne LL niŋtə (ku) lə
MM NE MM know (TEL) TEL/PST

"MM finished meeting MM."

Many of the telicity markers have meaning that match English resultatives. For example, many Shanghainese speakers say that *tʃə kwaŋ* means something like *eat up*. Others of them however, like *ho*, *ku* and *tə*, are just generic completion markers. The resultative telicity markers can only be used in situations where the object is completely affected. For example, if MM eats a cake, and we use the resultative telicity marker *kwaŋ*, the sentence has to refer to a situation in which MM ate the entire cake, leaving none left. However, if we change the scenario to one in which MM is merely finished *eating* cake, but there is still some cake left, one of the more generic telicity markers is used.

(14)  a. MM ne teko tʃə ku lə
       MM NE cake eat TEL PST

   b. * MM ne teko tʃə kwaŋ lə
      MM NE cake eat TEL PST

      "MM ate cake." (in a context where there is still some cake left, but MM is finished eating it.)

Sometimes the telicity markers are optional as in (13a,f). However, in this case, it is clear that there is still telicity realized in one of two ways: 1) telicity is implied by past tense, 2) there is independent evidence that the past tense marker *lə* can sometimes also be a telicity marker. Either way, telicity in some form is necessary in

the NE-construction as evidenced by the fact that telicity markers are obligatory in the NE-construction when in present tense or with imperatives.

(15) Present Tense

    a. MM tʃə teko
       MM eat cake

    b. * MM ne teko tʃə
         MM NE cake eat

    c. MM ne teko tʃə kwaŋ
       MM NE cake eat TEL

       "MM eats a cake (up)."

(16) Imperatives

    a. tʃə teko
       eat cake

    b. ne teko tʃə kwaŋ
       NE cake eat TEL

       "Eat the cake!"

    c. taŋso vaŋke
       clean room

    d. ne vaŋke taŋso ho
       NE room clean TEL

       "Clean the room!"

The relationship between the NE-construction and telicity could indicate that the correct analysis for this structure involves NE selecting for telicity features or an Aspect P. However, evidence from double object constructions show that overt telicity is not necessary at all as long as the verb has *something* to its right.

(17) Double Objects

    a. MM pa lə      tetəŋ **lələ kolo** **liʃəŋ**
       MM put TEL/PST lamp **at** **corner inside**

    b. MM ne tetəŋ pa (ho lə)   lə **kolo**   **liʃəŋ**
       MM NE lamp put (TEL PST) **to corner inside**

    c. MM ne tetəŋ **lələ kolo**   **liʃəŋ**  pa *(ho lə)
       MM NE lamp **at** **corner inside** put (TEL PST)

    "MM put the lamp in the corner."

Examples (17b-c) crucially show that telicity is *optional* when the prepositional phrase **follows** the verb, but is *obligatory* when the PP precedes the verb. This

suggests that a verb in the NE-construction merely requires some complement, but not necessarily telicity [5]. I therefore propose that telicity is not a necessary component of the NE-construction syntactically speaking, and that there is some other syntactic process causing this word order alternation.

## 5.1 The Proposal

As negation surfaces higher than NE, and negation is typically higher than vP, NE is likely in the vP domain. The adverb placement examples showed that there are two manner adverb attachment sites on either side of it. I propose that NE is a flavor of little v, like causative little v or passive little v, etc. If NE heads this little v projection, it would explain negation and adverb placement as adverbs can attach to the vP layer or the VP layer. SVO constructions in Shanghainese only have one option for adverb attachment, above the verb, so I conclude that verbs in Shanghainese do not normally raise from V to v.

(18)  MM (memetʃo) tʃə lə    (*memetʃo) teko
      MM (slowly)    eat PST (slowly)     cake
      "MM slowly ate the cake."

I previously suggested that the NE-construction is purely a syntactic process. I will now propose that the object moves to receive case. The idea is that V does not inherently have case assigning power, but little v does. Normally, in SVO sentences, little v is able to transfer its case assignment power to V, which in turn assigns case to its DP complement (similar to Chomsky 2008 feature inheritance). However, the little v flavor that is headed by NE is not capable of transferring case assignment power to V, though it can assign case itself. For the purposes of this paper, I assume that a case assigning head may assign case either to a DP complement, or to a DP that is in the specifier of its complement (ECM case marking). As the DP is not the direct complement of NE, in order to receive case, the object must raise to Spec VP to receive ECM-type case from NE. The figure on the next page outlines this idea. Throughout the remainder of this paper, black dotted arrows represent case assignment (or case assignment power), black solid arrows represent movement, and red dotted lines with flat heads represent failure to assign case or case assignment power (and red solid lines with flat heads represent failure to move).

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[5]Some Chinese languages actually require the verb to always take a complement, even in intransitives. For example, the verb *to eat* has to be something like *to eat rice*. This is not the case in Shanghainese. The sentence *MM eats* is simply *MM tʃə*.
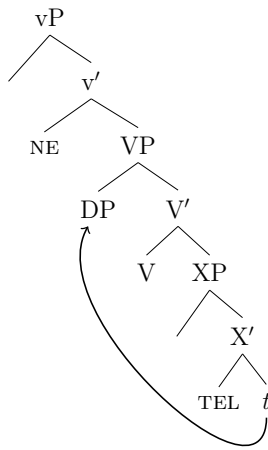
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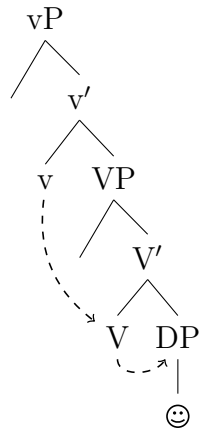
2. The NE-Construction:
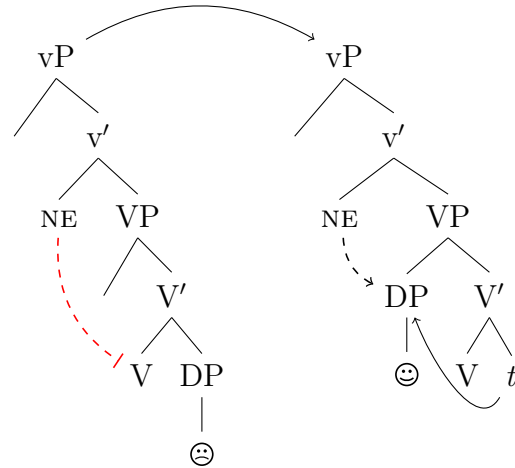


There are two immediate problems with the above analysis. The first is that, if we assume the trees to be as I have drawn them above, this type of object movement violates Anti-locality (Abels 2003). Anti-locality states that a complement of a head may not move to that head's specifier. This constraint predicts that the DP (complement of V) should not be able to move to Spec VP.
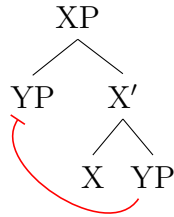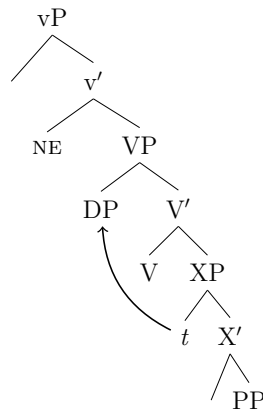


Even if the first issue were not a problem, there would still be a problem with this analysis, namely that it does not predict that the verb cannot be left bare at the end of the sentence (but rather requires telicity or a PP to follow it). The fact that these two issues co-occur is actually convenient because in solving one, we can solve the other. In order not to violate Anti-locality, the object must be embedded in another projection. This projection could either be a small clause that takes a DP and PP to form the double object construction, or a telicity phrase that takes a DP as its complement.
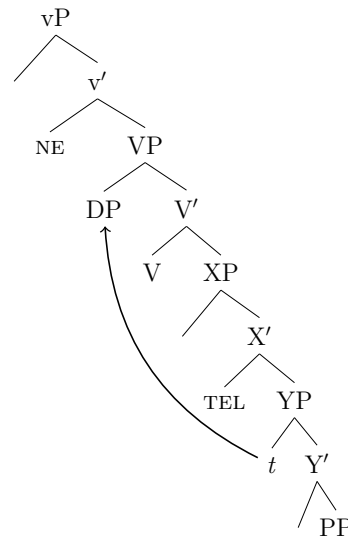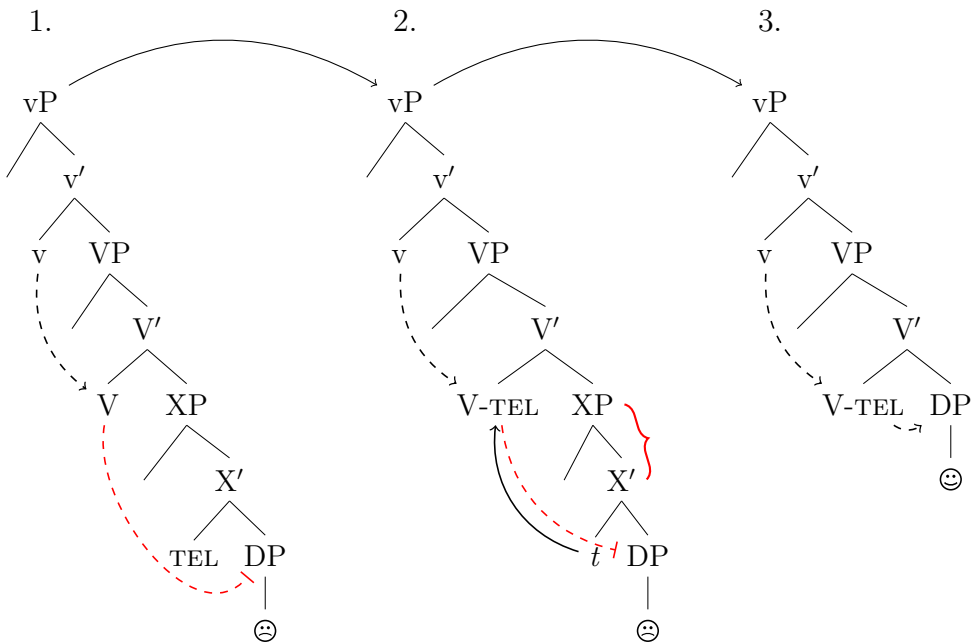
13

NE+TEL:          NE+PP:          NE+TEL+PP:

vP                vP                vP
  v'                v'                v'
NE    VP          NE    VP          NE    VP
    DP   V'           DP   V'           DP   V'
       V   XP            V   XP            V   XP
            X'              t  X'              X'
         TEL  t                  PP        TEL  YP
                                              t   Y'
                                                    PP

This analysis now successfully predicts the word order and facts of the NE-construction. We now check that it is compatible with case assignment in regular SVO sentences that have telicity. If we analyze every instance of telicity as the head of its own projection that takes DP as a complement, it seems like the DP should not be able to get case from V. The object also can't move to Spec XP because that would violate Anti-locality. I therefore propose that as a last resort, structure that blocks case assignment can be *exfoliated*, or deleted from the structure so that the DP can get case (Pesetsky 2016 Class Lectures).

1.                          2.                          3.

vP                         vP                         vP
  v'                         v'                         v'
v    VP                    v    VP                    v    VP
       V'                         V'                         V'
     V    XP                  V-TEL  XP                  V-TEL  DP
              X'                        X'                         ☺
           TEL  DP                  t    DP
                 ☹                        ☹

The above trees outline this process. In step 1, the DP is unable to get case and unable to move to a position where it could get case. In step 2, telicity is incorporated onto the verb via head movement (as aspect morphology on the verb), and then the empty structure (Spec XP and X′) is deleted yielding the final tree. In the final tree, the DP is the complement of V and can get case. In situations where there is no overt telicity, but rather only implied telicity, we can imagine that the XP structure is exfoliated before the telicity head can incorporate onto the verb. Thus it does not appear in the surface structure, but is still semantically interpreted.

# 6    Open Questions

An interesting open question concerns classifier stranding in the NE-construction in double object constructions. The examples in (19) show that when the entire DP moves (including classifiers), telicity is not necessary. However, when the object moves and strands the classifiers, telicity is preferred and has an interesting distribution.

(19)  Double Objects

    a.  MM ne se tsə tetəŋ pa  lə tetsɨ kodə
        MM NE 3  CL lamp put to table on-top

    b.  ? MM ne tetəŋ pa  lə tetsɨ kodə   se tsə
        MM NE lamp put to table on-top 3  CL

    c.  MM ne tetəŋ pa  lə tetsɨ kodə   tʃilə se tsə
        MM NE lamp put to table on-top TEL 3  CL

    d.  MM ne tetəŋ pa  (ho)   *(lə)  se tsə lələ tetsɨ kodə
        MM NE lamp put (TEL) (PST) 3  CL at   table on-top
        "MM put 3 lamps on the table."

Currently the theory does not predict that telicity or tense should be obligatory in (19d) for there to be a determiner in that spot. It also doesn't predict that Shanghainese would allow classifiers to follow the PP (though it is slightly degraded), or that telicity would make this construction even better. In order to answer this question, I would need to investigate this *tʃilə* telicity marker further. The speaker mentioned that it is used differently compared to the other telicity markers, and clearly has a different distribution. The judgments for these sentences sometimes vary a bit as well, so a better elicitation of this data is probably necessary.

# 7    Conclusion

This paper shows that the underlying word order of Shanghainese is SVO, and proposes an account of the NE-construction in Shanghainese. This proposal involves

three key components. The first is that V does not inherently have case assigning power, but may receive this power from v. The second component is that NE is a little v flavor that does not transfer case assignment power to V. Therefore the object must raise to Spec VP to receive case. The third component is the fact that the DP must be embedded in a separate projection in order not to violate Anti-locality, thus accounting for the fact that there is always something to the right of V in the NE-construction. More work needs to be done to fully account for the facts of classifier stranding in double object constructions (in the NE-construction). However, this idea is a good start and can hopefully shed light on the analogous BA-construction in Mandarin.

# References

[1] Klaus Abels, *Successive Cyclicity, Anti-locality, and Adposition Stranding.* Doctoral Dissertation, 2003.

[2] Noam Chomsky, *On Phases.* In Foundational Issues in Linguistic Theory, ed. by Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133-166. Cambridge: MIT Press, 2008.