Chapter 7: Topics and Relatives

In chapter 6, we discussed constructions derived by movement: the passive *bei* construction can be derived by movement of an argument to the subject position (short passives) or by movement of an operator to the peripheral position of an embedded clause (long passives). The former is an instance of A-movement (movement to an A(rgument)-position) and the latter, A’-movement (movement to an A’-position (non-argument position)).

In the generative literature, there are many constructions that have been shown to be derived by A’-movement. They are typically labeled as “*wh*-movement” structures because they can be best represented by *wh*-interrogative constructions in English like (1) (‘t’ represents the trace derived by movement.).

(1) a. Who₂i do you like t₃?
   b. I wonder who₂i you like t₃.

These sentences are derived by moving the *wh*-phrase originated from the object position to the clause-peripheral position.

Many other constructions have been shown to behave like *wh*-interrogatives. An example is the construction containing a relative clause – the relative construction, illustrated below.

(2) the man who₂i you like t₃

In this example, the relative pronoun *who* is originated from the object position of the relative clause and ends up in the peripheral position of the relative clause.

Another case is the construction containing a nominal phrase fronted to the beginning of a sentence --- topicalization.

(3) John₂i, I like t₃.

In what sense is a topic or relative structure also a *wh*-movement or A’-movement structure? They all share these properties:
(4a) A gap exists and has an A’-antecedent --- the peripheral \textit{wh}-phrase in (1)-(2) or non-\textit{wh}-phrase in (3).
   b. The antecedent-gap relation can cross multiple clause boundaries --- unbounded dependency.
   c. The dependency relation is sensitive to island conditions.

(4b) is illustrated by the relative structure in (5a) and the topic structure in (5b) in English:

(5) a. This is the girl [who, I think [that John believes that [Bill likes \textit{t}]]]
   b. That girl, I think that John believes that Bill likes.

(4c) is demonstrated by the unacceptability of the dependency relation crossing an island, such as a complex NP island in (6), the adjunct island in (7), the subject island in (8) and the \textit{wh}-island in (9):

Complex NP island: no extraction from within a complex NP
(6) a. *the girl who, you bought [the books that criticize \textit{t}]
   b. *that girl, you bought [the books that criticize \textit{t}]

Adjunct island: no extraction from within an adjunct clause
(7) a. *the girl who, you got jealous [because I praised \textit{t}]
   b. *that girl, you got jealous [because I praised \textit{t}]

Subject island: no extraction from within a subject
(8) a. *the girl who, you said [[that John likes \textit{t}] is important].
   b. *that girl, you said [[that John likes \textit{t}] is important].

\textit{Wh}-island: no extraction from within an embedded \textit{wh}-interrogative clause
(9) a. ?the gift which, you remember [where I bought \textit{t}]^5
   b. ?that gift, you remember [where I bought \textit{t}]

Does Chinese also have A’-movement structures? This language has \textit{wh}-interrogative, topic and relative structures, illustrated by (10), (11) and (12) respectively:

(10) ni xihuan shei?
    you like who
   ‘who do you like?’

(11) yuyanxue, wo zui xihuan.
    linguistics I most like
   ‘Linguistics, I like the most.’

(12) [ni xihuan de [haizi]]
    you like DE child
   ‘the child that you like’

We will leave the \textit{wh}-interrogative construction to the next chapter. Topic structures are prominent in Chinese. It has also been observed that a topic structure is closely related to a
relative: when an element is relativized, it is always from a topic position, as briefly discussed in chapter 5 (see Kuno 1973, Jiang 1990).

What are the syntactic properties characterizing topic and relative structures in Chinese? Section 7.1 will focus on the topic structure and section 7.2, the relative structure.

7.1. Topic structures

Topic structures have been extensively investigated in the literature on Chinese grammar. Chinese has been claimed to be a topic-prominent language, in contrast to English, which is a subject-prominent language (Li and Thompson 1976, 1981). What is a topic? Word order is a good clue. In addition to the typical SVO word order, Chinese allows variations of SOV and OSV.

Canonical order:

(13) wo hen xihuan yinyue. ---SVO
   I very like music
   ‘I like music.’

Variations:

(14) a. wo yinyue hen xihuan. ---SOV
   I music very like
   ‘I, music, like.’
   b. yinyue, wo hen xihuan. ---OSV
      music I very like
      ‘Music, I like.’

These variations contrast with the canonical SVO order in several respects. For instance, the object in the SOV and OSV patterns (preverbal object) generally does not allow an indefinite non-specific expression; but the object of SVO (postverbal object) easily allows it:

(15) a. wo zai zhao yi-ben xiaoshuo.
    I at seek one-CL novel
    ‘I am looking for a novel.’
   b. *wo yi-ben xiaoshuo zai zhao.
    I one-CL novel at seek
   c. *yi-ben xiaoshuo, wo zai zhao.
    one-CL novel I at seek

The use of an indefinite expression ‘a novel’ is not possible preverbally. When a bare nominal appears preverbally, it generally is interpreted as definite:

(16) a. shu, wo hui kan.
    book, I will read
    ‘The book(s), I will read.’
b. wo shu hui kan.
   I book will read
   ‘I, the book(s), will read.’

cf.
c. wo hui kan shu.
   I will read book
   ‘I will read books.’

(15a-b) contrast with (15c). Only the latter allows the object shu ‘book’ to be interpreted as indefinite.

The preverbal and postverbal objects also differ in their hierarchical relation with other elements in the sentence. A negative polarity item, for example, can be licensed by the sentential negation mei, when it occupies the object position in the SVO pattern, but not in the SOV or OSV pattern.

(17) a. ta mei xie shenme/renhe shu.
    he not write what/any book
    ‘He did not write any book.’
b. *ta shenme/renhe shu mei xie.⁸
    he what/any book not write
c. *shenme/renhe shu, ta mei xie.
    what/any book he not write

Although SOV and OSV patterns share properties that distinguish them from the SVO construction, the two are not identical. They differ with respect to their interpretive and syntactic properties. For instance, the object in the SOV structure requires a contrastive interpretation, but not in the OSV structure (see Ernst and Wang 1995, Lu 1994, Qu 1994, Shyu 1995). This is illustrated below.

(18) ta Zhang xiaojie, bu xihuan ti.
    him Zhang Miss not like
    ‘Miss Zhang does not like him.’
    ‘??He does not like Miss Zhang.’

The contrastive interpretation is clearer with a clause highlighting the contrastive usage of the preposed object, as in (19):

(19) Q: ta hui zhui Zhang xiaojie ma?
    he will court Zhang Miss Q
    ‘Will he court Miss Zhang?’

A: ta Zhang xiaojie, bu xiang zhui ti, Li xiaojie cai hui zhui ti
   he Zhang Miss not want court Li Miss only will court
   ‘He does not want to court Miss Zhang; (he) only will court Miss Li.’
In addition to the contrastive interpretation, SOV and OSV structures have different syntactic properties. For instance, OSV, not SOV, allows a coindexed pronoun in the postverbal object position:

(20) a. *wo Zhang xiaojie, bu xiang zhui ta, Li xiaojie cai hui zhui ta
            I Zhang Miss not want court her Li Miss only will court her
        cf.  b. Zhang xiaojie, wo bu xiang zhui ta
            ‘Miss Zhang, I don't want to court her.’

Furthermore, the two differ in the availability of long-distance movement: the OSV order allows the object to move across a tensed-clause boundary but not the SOV order.

(21) a. *ni shu renwei ta kan-wan le t ma?
        you book think he read-finish PERF Q
        ‘Lit: Do you, the book, think he finished reading (intended to mean
         Do you think he finished reading the book?)’
        b. *Zhangsan yuyanxue renwei ta tebie xihuan t.
           Zhangsan linguistics think he especially like
           ‘Lit: Zhangsan, linguistics, thinks he especially likes (intended to mean
            Zhangsan thinks he especially likes linguistics.)’

(22) a. shu ni renwei ta kan-wan le t ma?
        book you think he read-finish PERF Q
        ‘The book, do you think he finished reading?’
        b. yuyanxue Zhangsan renwei ta tebie xihuan t.
           linguistics Zhangsan think he especially like
           ‘Linguistics, Zhangsan thinks he especially likes.’

These differences, as suggested by Qu 1994, Shyu 1995, among others, can be accounted for if the SOV structure is derived by an A-movement process and the OSV structure, an A’-movement process. A-movement is generally limited within the domain containing a subject and A’-movement allows long-distance operations (cf. the short and long-distance passives in Chapter 6). The SOV construction has generally been regarded as a contrastive or focus structure; and OSV, a topic structure. What follows will concentrate on the topic structure.

More generally, a topic structure refers to sentences that have a phrase “preposed” to the position before the subject [XP + Subject…]. The use of the term “preposed” is suggestive of movement. However, this is a point of contention in the literature. We turn to the properties of topic structures below.

7.1.1. Movement or not?

There have been considerable debates on whether a topic structure is derived by movement. The controversy has been on whether locality conditions applying to movement constructions are observed in topic structures. Another point of contention is whether a topic structure needs to be derived in two different ways: base-generation and movement.
Consider, first, the issue of whether both movement and base-generation are necessary to derive topic structures. As often observed, there are topics not related to a gap in the clause. Examples like the following ones do not contain a gap (see Chao 1968, Teng 1974, Li and Thompson 1976, 1981, Tang 1979, Tsao 1977, among many others):

(23) nei-chang huo, xingkui xiaofangdui lai-de kuai.
    that-CL fire fortunately fire-brigade come-DE fast
    ‘(As for) that fire, fortunately the fire brigade came fast.’
(24) shuigu, wo zui xihuan xiangjiao.
    fruit I most like banana
    ‘(As for) fruits, I like bananas most.’

There have been two views for such “gapless” topic structures. One is to take them as evidence for the existence of base-generated topic structures, as opposed to topic structures derived by movement (discourse topic vs. contrastive topic; see Tsai 1994, for instance). The other is to try to adopt a movement approach to all topic structures and claim that sentences like (23)-(24) are derived by movement and, then, deletion (see Shi 1992). Take (24) for example. It may be derived from a structure like (25) below (the elements in the parentheses are deleted after movement):

(25) shuigu, wo zui xihuan [(shuigu zhong de) xiangjiao].
    fruit I most like fruit among DE banana
    ‘(As for) fruits, I like bananas most.’

The topic shuigu ‘fruit’ is moved from the modifier/possessor position within the nominal expression containing xiangjiao ‘banana’. However, it is doubtful that such a movement of or from a modifier/possessor position is available in Chinese. If it were available, a sentence like (26) should be acceptable, contrary to the fact.

(26) *Zhangsan, wo zui xihuan [(Zhangsan de) baba].
    Zhangsan I most like Zhangsan DE father

Accordingly, we adopt a base-generation approach to the “gapless” topic structures in (24)-(25). A gapless topic construction is interpreted according to an “aboutness” relation: the comment clause is about the topic.

When base-generation is possible, it is tempting to conclude that all topic structures in Chinese are generated in the same manner. That is, all topic structures are instances of an “aboutness” relation. However, such a claim is neither logically necessary nor empirically supported. Consider the sentences below:

(27) a. Zhangsan_i, ta_j zou-le.
    Zhangsan he leave-PERF
    ‘Zhangsan, he left.’
In (27a), the pronoun ta ‘he’ may be understood to be coreferential with the topic, but in (27b) the coreference relation is not allowed. If all topic structures are base-generated and do not contain a gap (empty categories), the difference in interpretation between these sentences is not easily captured. Note that the ungrammaticality of (27b) is related to the fact that the pronoun ta cannot be coindexed with Zhangsan in (27):

(28) *ta bu renshi Zhangsan.
    he not know Zhangsan
   ‘He doesn't know Zhangsan.

A theory that postulates movement in the derivation of (27b) from something like (28) can easily capture the facts in (27). The ill-formedness of (27b) follows from whatever principle that also rules out the relevant interpretation in the source structure (28), such as the Binding Principles.\textsuperscript{12}

(29) a. An anaphor is bound in its governing category.
    b. A pronominal is free in its governing category.
    c. An R-expression is free.

In particular, because Zhangsan in (28) is a referential expression, by Principle C (= (29c)) it must not be A-bound or coindexed with a c-commanding NP in an A-position. But in (28) Zhangsan is A-bound by the subject ta; the sentence is ruled out by Principle C. (27b) can be ruled out in the same way, if it is assumed that Zhangsan is put back to the object position, where it is originated from. Alternatively, we may resort to the property of the empty category in the object position, represented in (30). It is bound by an A’-element (the topic); it is a variable. A variable is also an R-expression and subject to Binding Principle C. It cannot be A-bound:

(30) *Zhangsan, ta bu renshi e.
    Zhangsan he not know
   ‘Zhangsan, he didn't see e.

Similarly, the contrast below can be accounted for by the fact that (31b) but not (31a) contains an empty category coindexed with both the topic and the subject ta:

(31) a. Zhangsan, ta shuo Lisi zou-le.
    Zhangsan he say Lisi leave-PERF
   ‘Zhangsan, he said that Lisi left.’
    b.*Zhangsan, ta shuo Lisi kanjian-le e.
    Zhangsan he say Lisi see-PERF
   ‘*Zhangsan, he said that Lisi saw e.’

(31b) is ruled out, again by Principle C, on par with (32) and cases involving ‘strong crossover’ like (33):
(32) *tai shuo Lisi kanjian-le Zhangsan.
   he say Lisi see-PERF Zhangsan
   ‘He said that Lisi saw Zhangsan.’
(33) *Who did he say that I saw tī?

A different kind of contrast points to the same conclusion:

(34) a. *zījī de shu, Zhangsan dōu shuí-zhào-le.
   self DE book Zhangsan even fall-asleep-PERF
   ‘Self’s book, even Zhangsan fell asleep.’
   b. [zījī de shu], Zhangsan bù xiāng kān e
      self DE book Zhangsan not want read
   ‘His own book, Zhangsan did not want to read.’

(34a) is ill-formed because the reflexive anaphor zījī ‘self’ is not bound within its governing category in accordance with Principle A of Binding Theory (29a).13 (34b), on the other hand, exhibits the “reconstruction effect”. Although zījī is not c-commanded by Zhangsan in this sentence, it can be placed back to where the gap is and interpreted accordingly. Alternatively, the fact that the topic containing zījī is coindexed with an empty category c-commanded by Zhangsan allows us to count the anaphor as being “bound” in some extended sense. It can satisfy Principle A without being placed back to the object position. This is the notion of ‘chain-binding’ proposed in Barss (1986). The preposed topic and the object where it is originated form a chain. As long as a member in the chain containing an anaphor is c-commanded by an A-element, this A-element can bind the anaphor.

Alternatively, we may also claim that the anaphor is put back to the object position (reconstruction): There are many interesting works in the literature debating on the merits of “chain-binding” and “reconstruction.” We will not discuss them here, except noting a “one-way implication”: if reconstruction (chain binding) is possible, movement must have taken place.

Taking “reconstruction” effects as a test, we may conclude that (35a), not (35b), is derived by movement. The two differ minimally in the use of an overt pronoun.

(35) a. [zījī de bābā]i, Zhang xīaojié jīn zūnzhòng tī
      self DE father Zhang Miss very respect
      ‘Self’s father, Miss Zhang respects (him).’
   b. *[zījī de bābā]i, Zhang xīaojié jīn zūnzhòng tā
      self DE father Zhang Miss very respect him
      ‘Self’s father, Miss Zhang respects him.’

Other “reconstruction” effects can be demonstrated. For instance, an idiom has been regarded as one unit in the lexicon. If some part of an idiom is separated from the others, movement must have applied: the moved part should be reconstructed back to become one unit with the rest of the idiom. Topic structures show such reconstruction effects:
In short, the contrasts illustrated above show that topic structures involve movement and the gap derived by movement. The preposed topic is an argument of the verb; it is not interpreted according to an “aboutness” relation, as with (23)-(24). The non-movement approach to all topic structures, coupled with the notion of “aboutness” relation, represented by Li and Thomspn (1976), cannot be adopted.

The contrasts also argue against the view of Xu and Langendoen (1985) and Xu (1986). Xu and Langendoen agree with Li and Thompson and argue that Chinese topic structures are not formed by movement at all. However, unlike Li and Thompson, who do not postulate the existence of gaps, they adopt the view that the sentences like (27b) above do contain an empty category. Nonetheless, they consider the empty category to be a ‘free empty category’ (FEC). More specifically, according to Xu (1986), the FEC may be freely interpreted as an anaphor, pronominal or an R-expression (variable) as long as the 'aboutness requirement' and other Gricean principles of cooperation are met. Except for the fact that the FEC allows a transitive verb to always have an object (regardless of whether it appears overtly) --- conforming to the “Projection Principle”, the postulation of an FEC is essentially the same as the view that there is no EC at all. Thus, according to Xu (1986), (27b) should be well-formed because it contains an object FEC, which, if coindexed with the subject ta, can be admitted as an anaphor. (31b) should be well-formed because the object FEC can be coindexed with ta and interpreted as a pronominal. In other words, (27b) and (31b) should be as good as their (a) counterparts and as good as the sentences below:

(37) Zhangsan, ta rensi ziji.  
Zhangsan he know self  
‘Zhangsan, he knows himself.’
(38) Zhangsan, ta shuo Lisi bu rensi ta.  
Zhangsan he say Lisi not know he  
‘Zhangsan, he said that Lisi didn't know him.’

The unacceptability of (27b) and (31b) suggests that the FEC analysis is not adequate.

In brief, not all topic structures are derived in the same manner. Some topics are derived by movement and related to a gap in the comment clause. Some others are not, and are interpreted according to an “aboutness” relation. Movement derives the former and base-generation, the latter.
If the topic structure containing a gap is derived by movement, we should expect the distribution of gaps to be subject to the locality conditions on movement. More generally, topic structures with a gap should exhibit the properties listed in (4). The facts are largely as predicted. Exceptions are due to the possibility of base-generating an empty pronoun in certain contexts, as shown next.

7.1.2 Island conditions

To begin with, note that, as in (4b) (unbounded antecedent-gap relation), it is possible to topicalize an element that is deeply embedded in a complement clause:

(39) Zhangsan, wo zhidao Lisi juede nimen dou hui xihuan ei.

Zhangsan I know Lisi feel you all will like
‘Zhangsan, I know that Lisi feels that you will all like.’

However, extraction is not possible from within islands (4c). Islands include a complex NP island such as (40):

Lisi I know many like DE person
‘Lisi, I know many people who like ei.’

b. *Lisi, [ wo hen xihuan [ [ei chang ge] de] shengyin]].
Lisi I very like sing song DE voice
‘Lisi, I like the voice with which ei sings.’

These sentences become acceptable if the gap [ei] is replaced by a resumptive pronoun, indicating that the ill-formed sentences are not semantically or pragmatically anomalous. For example, (41a-b) are acceptable:

(41) a. Lisi, wo renshi [henduo [ [ xihuan tai] de] ren]].
Lisi I know many like he DE person
‘Lisi, I know many people who like him.’

b. Lisi, [ wo hen xihuan [[tai chang ge] de] shengyin]].
Lisi I very like he sing song DE voice
‘Lisi, I like the voice with which he sings.’

The contrast between the ill-formed (40a-b) and the well-formed (41a-b) is a bona fide instance of island violations — the Subjacency effect (see the next chapter for more discussions). Informally put, movement cannot cross the boundary of a tensed clause or a nominal phrase unless the movement is originated from the peripheral position such as the Specifier position of a Complementizer heading a clausal projection (Spec of CP) or the Specifier position of a nominal phrase. Movement of the topic nominal in (39) can proceed through the Specifier of CP in the embedded clause. However, in a complex nominal projection such as (40)-(41), the topicalized phrase is originated from within the relative clause and the Specifier of the relative CP is not available for this phrase (see the discussion of relative constructions shortly). Topicalization in (40)-(41), thus, crosses an island boundary. It violates the complex NP constraint (CNPC).
That topicalization in Chinese is constrained by the complex NP constraint has been noted by a number of linguists (see e.g., Tang (1977) and Chen (1975)). This is expected, of course, if topicalization is derived by movement when a gap occurs. In fact, we predict that the other conditions that have been grouped under the island constraints, the Left Branch Condition (no extraction from the left branch), the Adjunct Condition, and the Subject Condition should all apply in Chinese as well. These can be illustrated by the following sentences:

Left Branch Condition (LBC).
(42) *Zhangsan, wo kanjian-le [e: baba].
   Zhangsan I see-PERF father
   ‘Zhangsan, I saw [his] father.’

Adjunct Condition (AC):
(43) a. zhe-jian shi [gen Lisi mei lai] mei you guanxi.
      this-CL matter with Lisi not come not have relation
      ‘This matter is not related to Lisi's not having come.’
   b.*Lisi, zhe-jian shi [gen e: mei lai] mei you guanxi.
      Lisi this-CL matter with not come not have relation
      ‘Lisi, this matter is not related to [his] not having come.’

Regarding the Subject Condition (SC), although some previous studies have shown that extraction out of a sentential subject may lead to ungrammatical strings (see Tang (1977), Paris [1979], Huang (1982)), it is actually not difficult to find acceptable examples that violate the SC (see Huang 1982, 1984).

(44) zhe-ben shui, [[Lisi kan e] zui heshi].
      this-CL book Lisi read most appropriate
      ‘This book, for Lisi to read [it] is most appropriate.’

Extraction seems also possible from the sentential subject of an embedded clause:

(45) Xiaoming, [wo juede [[Lisi zhaogu e] zui anquan].
      Xiaoming I think Lisi care-for most safe
      ‘Xiaoming, I think that for Lisi to care for [him] is the safest.’

The apparent violation of the SC is also manifested in well-formed cases with an empty category in the possessor position of a subject:

(46) Zhangsan, [[e: baba] hen youqian].
      Zhangsan father very rich
      ‘Zhangsan, [his] father is rich.’

In summary, we have seen that topicalization exhibits the expected effects of the island conditions except for the SC.15
The exception of the SC is surprising, considering that the other island conditions are obeyed. The facts are quite complicated. The example in (46), for instance, also challenges the LBC, because it involves the extraction of a left-branch phrase. (46) forms a sharp contrast with (42). The former shows that extraction seems to be free from the constraint of the LBC, but the latter shows just the contrary. In fact, a similar problem also arises with the CNPC. The following sentence apparently violates the CNPC but is perfectly acceptable:

(47) Zhangsan, [[ xihuan e de] ren] hen duo.
   Zhangsan like DE person very many
   ‘Zhangsan, people who like [him] are many.’

Furthermore, certain apparent AC violations are also acceptable. In contrast to the ill-formed (43b), the following sentence is acceptable:

(48) Lisi, yinwei e piping-le Zhangsan, (suoyi) meiren yao ta.
    Lisi because criticize-PERF Zhangsan so nobody want him
    ‘(As for) Lisi, because [he] criticized Zhangsan, nobody wants him.’

Similar to the contrast between (46) and the ungrammatical (42) above can be observed between the grammatical and ungrammatical extraction from a complex NP:

(49) a. Lisi, [[ e chang ge de] shengyin] hen haoting.
    Lisi sing song DE voice very good
    ‘Lisi, the voice with which [he] sings is very good.’
   b. *Lisi, wo hen xihuan [[ e chang ge de] shengyin].
    Lisi I very like sing song DE voice
    ‘Lisi, I like the voice with which e sings.’

The generalization that emerges is this: the CNPC and the LBC appear to have an island effect on extraction only when a given island occurs in object position, but not when it occurs as a subject. The lack of SC effects in Chinese is a special instance of this more general subject-object asymmetry.

The theoretically interesting questions are (a) why the subject-object asymmetry should obtain, and (b) why it only obtains in Chinese but not, say, in English. Huang (1982) and his subsequent works show that an important difference between Chinese and English lies in the possibility of an empty pronoun (pro and PRO). Chinese allows an empty pronoun in all argument positions (pro), in contrast to English, which only allows an empty pronoun in a Caseless position (PRO, such as the subject of an infinitival clause). The distribution of a pro or PRO is subject to a rule called Generalized Control Rule, generalizing the control rule for the reference of PRO in English:

(50) The Generalized Control Rule (GCR):
    An empty pronoun is coindexed with the closest potential antecedent. (Otherwise, an empty pronoun is assigned the index \textit{arb} for arbitrary reference.)
The apparent island violations in the cases discussed above can be solved in the following way. Assuming that the GCR may coindex an empty pronoun with either an antecedent in A-position or with one in A’-position, all the apparent island violations can be shown to arise from the independent possibility of having a pro properly coindexed with an A’-binder in accordance with the GCR in Chinese, i.e., from the possibility of using pro as a resumptive pronoun in this language. Because the GCR only looks for the closest antecedent and, unlike movement, not subject to Subjacency or other island constraints, no real violation of these constraints has occurred.

To illustrate, consider an example in which topicalization out of a complex NP is possible. In particular, consider the contrast below (repeated from (49a-b)):

(51) a. Lisi, [[ e: chang ge de] shengyin] hen haoting.
   Lisi sing song DE voice very good
   ‘Lisi, the voice with which [he] sings is very good.’

   b. *Lisi, wo hen xihuan [[ e: chang ge de] shengyin].
   Lisi I very like sing song DE voice
   ‘Lisi, I like the voice with which e sings.’

In each case above, the binding relationship between the empty category [e] and the topic cannot be established by movement, because the process of movement involved would violate Subjacency. However, Chinese allows a pro; such an empty category may be base-generated. Its reference is determined by the GCR. The nominal phrase minimally c-commanding the empty category is the topic in (51a), so by the GCR the pro is coindexed with the topic and we have a case of a topic properly binding a pro within a complex NP. Since the GCR is subject only to the notion of "closest" but not to the island constraints, the binding relation does not violate any principle of grammar. The empty category is admitted in (51a) not as a trace of movement, but as a pro--an empty resumptive pronoun.

Now consider (51b). Given Subjacency, the empty category cannot be created as a trace by movement, but it can be base-generated as a pro. By the GCR, however, it cannot be coindexed with the topic. The closest antecedent c-commanding the empty category is the subject wo 'I' of the comment clause, not the topic Lisi. By the GCR the pro must be coindexed with wo or it would be assigned an arbitrary reference. Because the empty category cannot be related to the topic, either as a trace or as a pro, the sentence is ill-formed. More specifically, the sentence is only acceptable under the interpretation ‘(As for) Lisi, I like my own voice of singing’ or ‘(As for) Lisi, I like the voice with which one sings’. Since no natural 'aboutness' relation exists between the topic and the comment, the sentence is ruled out.

The GCR correctly predicts that an element may be topicalized out of a complex NP if the complex NP occurs in subject position, but not if it occurs in object position. It also correctly predicts the fact observed earlier that, if an object complex NP is preposed before the subject, extraction from the complex NP becomes possible.

Similarly, the GCR also accounts for the asymmetry we saw earlier with respect to the LBC and the AC. It is also not surprising that a subject of a sentential subject can be topicalized. We will
not elaborate on the details here. Readers are referred to Huang (1982 (and ??the year of publication by Garland?).

The only problem left is why it is possible to extract not only a subject but also an object out of a clause-initial island, such as the sentences in (44), (45), (47) and (52a-b) below.

(52) a. zhe-ge xiaohai, [Lisi zhaogu e] zui heshi].
   this-CL child Lisi care most appropriate
   ‘This child, that Lisi takes care of [him] is most appropriate.’
   b. Zhangsan, [de piping e de ren] hen duo].
   Zhangsan criticize DE person very many
   ‘Zhangsan, people who criticize [him] are many.’

Huang suggests that topicalization of the object has applied first within the embedded clause, resulting in a pro occurring at the peripheral position of the sentential subject. This can be schematically represented below:

(53) Topic, [Clause [Subject pro . . . ti] . . . ]
   ------- GCR ------- --- Move ---

Evidence for this proposal comes from the fact that the acceptability of this type of sentences corresponds to the acceptability of topicalization within the embedded clause. For instance, topicalization of an object is generally possible within a sentential subject of a relative clause:

(54) a. Zhangsan, [[nei-ge xiaohai ta bu xihuan ti] mei guanxi].
   that-CL child he not like not matter
   ‘Zhangsan, [that the child, he doesn't like] doesn't matter.’
   b. [[nei-ben shu ta bu xihuan ti de] nei-ge ren lai-le.
   that-CL book he not like DE that-CL person come-PERF
   ‘The person such that that book, he doesn't like has come.’

There are cases where such internal topicalization is not available, as Huang cites Jane Tang (personal communication).¹⁷

(55) a. wo bu xihuan [Lisi piping Zhangsan de taidu].
   I not like Lisi criticize Zhangsan DE attitude
   ‘I don't like the attitude with which Lisi criticized Zhangsan.’
   b. *wo bu xihuan [Zhangsan, Lisi piping de taidu].
   I not like Zhangsan Lisi criticize DE attitude
   ‘I don't like the attitude with which Zhangsan, Lisi criticized.’

(56) a. wo zhidao [Lisi kanjian Zhangsan de difang].
   I know Lisi see Zhangsan DE place
   ‘I know the place where Lisi saw Zhangsan.’
   b.*wo zhidao [Zhangsan, Lisi kanjian de difang].
   I know Zhangsan Lisi see DE place
   ‘I know the place where Zhangsan, Lisi saw.’
Correspondingly, such an object cannot be coindexed with a topic outside the island:

(57) a. *Zhangsan, [[Lisi piping e de taidu] hen bu-hao].
   Zhangsan Lisi criticize DE attitude very not-good
   ‘Zhangsan, the attitude with which Lisi criticized is very bad.’

   b. *Zhangsan, [[Lisi kanjian e de difang] li zheli hen jin].
   Zhangsan Lisi see DE place to here very near
   ‘Zhangsan, the place where Lisi saw is very near here.’

In brief, topic structures can be derived by base generation or movement. The latter is sensitive to island conditions. What appear to be island violations actually involve a pro, which is identified with the Topic by the GCR. The relevance of island conditions on all topic structures containing a gap also argues against a clear-cut distinction between a discourse topic structure being derived by base-generation and a contrastive topic structure being derived by movement. Regardless of interpretation possibilities, what matters is the presence or absence of an empty category and the nature of the empty category (trace or pro).18

The study of topic structures also strengthens the claim in the generative grammatical theory that movement is sensitive to island conditions. In turn, island conditions can be taken as a diagnosis for movement. Moreover, as shown earlier, “reconstruction effects” are also a diagnostic of movement. If a structure exhibits “reconstruction effects”, movement must have taken place. These properties regarding islandhood and reconstruction are further illustrated by the relative construction, a pattern that has usually been associated with topic structures. We turn to relatives next.

7.2 Relative structures

Topic and relative structures have generally been understood as sharing many properties. For instance, both constructions belong to the group of structures subsumed under *wh*-constructions, as mentioned at the beginning of this chapter. To capture the similarity between topic and relative structures, Kuno (1976) proposed the ‘Thematic Constraint’, according to which a relative clause construction is well-formed just in case there is a corresponding well-formed topic structure in which the head modified by the relative clause is used as the topic and the relative clause as a comment about the topic. In the same spirit, Tang (1979) proposed that in the formation of a relativized construction in Chinese, an argument is first topicalized within the relative clause before it is related to the head--so that the relativized argument is always the internal topic. Jiang (1990) makes the same claim. However, there are also important differences between topicalization and relativization that cannot be captured under this hypothesis. Some topic structures are acceptable without corresponding relative structures and vice versa.

We saw in the previous section that Chinese topic structures need not have an element in the comment clause coindexed with the topic, such as those in (23)-(24). A topic structure without a coindexed element in the comment clause may be acceptable if the comment can be understood
as saying something about the topic—an ‘aboutness relation’ holds. However, such an aboutness relation is not sufficient to license a relative construction:

(58) *[ [ xingkui xiaofangdui lai-de kuai de] nei-chang huo]  
   fortunately fire-brigade come-DE fast DE that-CL fire  
   ‘the fire such that fortunately the fire brigade came fast’

(59) *[ [ wo zui xihuan xiangjiao de] shuigu]  
   I most like banana DE fruit  
   ‘the fruit such that I like bananas’

This contrast between topic and relative structures can be further illustrated below. The verb *fasheng* 'happen' has both an unaccusative and a transitive use. (60) illustrates the unaccusative use with one argument (Theme), and (61), the transitive use with an additional argument (Experiencer):

(60) yiwai fasheng-le.  
    accident happen-PERF  
    ‘An accident happened.’

(61) tamen fasheng-le yiwai le.  
    they happen-PERF accident LE  
    ‘They had an accident.’

Both (60) and (61) may occur in construction with a topic:

(62) tamen, yiwai fasheng-le.  
    they accident happen-PERF  
    ‘(As for) them, an accident happened.’

(63) tamen, ei fasheng-le yiwai le.  
    they happen-PERF accident LE  
    ‘As for them, they had an accident.’

But (63), not (62), has a well-formed relativized counterpart:

(64) *[ [ yiwai fasheng-le de] neixie ren]  
    accident happen-PERF DE those person  
    ‘the people such that an accident happened’

(65) *[ [ ei fasheng-le yiwai de] neixie ren]  
    happen-PERF accident DE those person  
    ‘the people who had an accident.’

Were a topic structure the source of relativization, (62) and (64) should not differ in acceptability.

In other respects, a relativized construction may be well-formed; but a corresponding topic structure is not. For example, although an adjunct can be relativized, it often cannot be used as a topic (Ning 1993).
Thus, the well-formedness of a topic structure is neither necessary nor sufficient for the acceptability of a corresponding relative structure, suggesting that relative clause structures are not derived from topic structures. A relativized phrase is not always originated from a topic. What is a relativized phrase and what is the process of relativization? To answer these questions, we will present important empirical generalizations regarding relative constructions and discuss their structures and derivations in the following subsections.

7.2.1. Distribution and interpretation

Within a nominal phrase, a few elements must appear in a fixed order. The basic component of a nominal phrase is a noun, such as mao ‘cat’. A noun can appear with a number to express quantity. In Chinese, the presence of a number requires a classifier to specify the “unit” with
which the entity denoted by the noun is counted or measured (for a recent work on classifiers and “massifiers”, see Cheng and Sybesma 1999). A demonstrative (and other words that are in complementary distribution with demonstratives, such as the quantifier mei ‘every’) may occur before the number. The order of these constituents can be summarized in (69) (see Chapter 9 for more details on the constituents and their ordering within nominals):

(69) Demonstrative + Number + Classifier + Noun

\[ \text{zhe/na yi/san zhi/bei mao/shui} \]
\[ \text{this/that one/three Cl/cup cat/water} \]
\[ \text{‘this/that (one) cat; these/those three cups of water’} \]

A relative clause may appear in the positions indicated by the roman numerals I-III in (70), illustrated by the examples in (71a-c) respectively.

(70) Demonstrative + Number + Classifier + Noun

I                             II                                  III

(71) a. [[ta xihuan de] na (yi) ge haizi]
\[ \text{he like DE that one CL child} \]
\[ \text{‘the child that he likes’} \]

b. [[zhe Zhangsan shuo chulai de] yi-ju hua] bi
\[ \text{this Zhangsan speak out DE one-CL word compare} \]
\[ [[na Lisi xie chulai de] yibai-ju hua] hai you yong. \]
\[ \text{that Lisi write out DE one.hundred-CL word more have use} \]
\[ \text{‘This one sentence that Zhangsan spoke is even more useful than those hundred sentences} \]
\[ \text{that Lisi wrote.’} \]

c. [na (yi) ge [ta xihuan de] haizi]
\[ \text{that one-CL he like DE child} \]
\[ \text{‘the child that he likes’} \]

As indicated by the more complex example in (71b), the position II (between a demonstrative and a number) is not the most natural position for a relative clause. We put this aside (see Lu 1998). The contrast between I and III, illustrated by (71a) and (71c), has been extensively discussed in the literature, including the cases when the demonstrative does not appear, as in (72). For convenience, we refer to these two positions as position I and III.

(72) Number + Classifier + Noun

I                             III

The distinction between these two positions for relatives has been cast in various ways in the literature. One is “restrictive” vs. “non-restrictive” (see, for instance, Chao 1968, Hashimoto 1972, Huang 1982). The relative occurring in position I is restrictive and the one in position III is non-restrictive. What is a non-restrictive relative? Del Gobbo (2003) summarizes the differences between a restrictive and a non-restrictive (also termed as appositive) in English in (73).
In terms of categories, the antecedent of an appositive can be any maximal projection (Sells 1985, among others).

b. Sentential adverbs of modification can appear only inside appositives, not inside restrictives (Ogle 1974).

c. A quantified NP cannot be the antecedent of an appositive (Ross 1967).

d. No quantifier in the matrix clause can have scope over a pronoun in the appositive clause (Safir 1986).

e. Appositives are affected by the presence of negation in the main clause (Demirdache 1991).

f. Appositives appear DP-finally (following all restrictive modifiers).

g. Restrictives allow stacking, appositives do not.

h. Appositives are used to qualify unmodified proper names, restrictives are not.

i. Appositives allow pied-piping, restrictives don’t (Emonds 1979).

She shows that the so-called non-restrictive relative in Chinese is not like an appositive (non-restrictive) in English. It behaves like a restrictive in English. For lack of space, we will not repeat all the arguments and examples, except sketching some of the important points with a few illustrations.

Regarding (73b), Emonds (1979), following Ogle (1974), claims that certain adverbs generally appear only in main clauses. Importantly, they also appear in non-restrictive relative clauses:

(74) a. The boys, who have frankly lost their case, should give up.

b. *The boys who have frankly lost their case should give up.  

(Emonds 1979)

However, Chinese does not allow such adverbs not separated from the rest of the relative by an intonational break, regardless of whether the relative clause appears in position I or III.

(75) a. *[wo shunbianshuo kai de] zhe yi-liang qiche zhuangzai bu wanhao.  

   I frankly drive DE this one-CL car condition not excellent.

b. *zhe yi-liang [wo shunbianshuo kai de] qiche zhuangzai bu wanhao.  

   this one-CL I frankly drive DE car condition not excellent.

Next, consider (73c). The elements modified by quantifiers such as every, any, and no cannot usually serve as antecedents of an appositive clause; the following example is from Ross (1967):

(76) a. Every student that wears socks is a swinger.

b. *Every student, who wears socks, is a swinger.  

(Ross 1967)

Some further examples are quoted from Rodman (1976), etc.

(77) *Every/No/Any man, who is a mammal, walks.  

(Rodman 1976)

In Chinese no difference arises if the relative clause is in position I or III, as pointed out by Lin (1997).
    every one-CL wear socks DE student all be dancers DE  
    ‘Every student who wears socks is a dancer.’

    wear socks DE every one-CL student all are dancers DE  
    ‘Every student who wears socks is a dancer.’

Examples involving a kind-level predicate inside the relative clause like (77) are also quite  
telling. Such a relative clause must be an appositive. Being a mammal in (77) needs to apply to  
the entire set identified by the common noun man, it cannot possibly be used in a restrictive  
sense.

Irrespective of its position (I or III), a Chinese relative does not behave like an appositive in  
English.

    every-CL be mammal-animal DE person can walk  
    ‘Lit: Every man that is mammal walks.’

   b. [RC shi buru-dongwu de] mei-ge ren hui zou.  
    be mammal-animal DE every-CL person can walk  
    ‘Lit: Every man that is mammal walks.’

(80) a. renhe [RC shi buru-dongwu de] ren hui zou.  
    any be mammal-animal DE person can walk  
    ‘Lit: Any man that is mammal walks.’

   b. [RC shi buru-dongwu de] renhe ren hui zou.  
    be mammal-animal DE every person can walk  
    ‘Lit: Any man that is mammal walks.’

According to Del Gobbo, these sentences are not ungrammatical. They are simply infelicitous,  
sounding awkward, like the following sentence in English:

(81) Every mammalian man walks.

(73d) prohibits a quantifier in the matrix clause from binding a pronoun in the appositive clause:

(82) a. *Every Christian_i forgives John, who harms him_i.  

   b. Every Christian_i forgives a man who harms him_i.  
      (Safir 1986:672)

Again, according to Del Gobbo, such binding possibilities are demonstrated in both types of  
relatives in Chinese.

(83) a. [mei yi-ge xuesheng] de dou yuanliang naxie [cengjing shanghai tamen de] ren.  
    every one-CL student all forgive those formerly insult them DE people  

‘Every student forgives those who have insulted him before.’

b. [mei yi-ge xuesheng], dou yuanliang cengjing [shanghai tamen, de]
   every one-CL student all forgive formerly insult them DE
   those people
   ‘Every student forgives those who have insulted him before.’

Turn to (73f): appositives appear DP-finally; hence, they follow all restrictive modifiers (position III):

(84) a. the girl that I saw, who John dislikes, is beautiful.
b. *the girl, who John dislikes, that I saw is beautiful.

For position III relatives, they are restrictive and should be closer to the ‘head’ than the non-restrictives (appositives). Chinese relative clauses always precede the noun. A non-restrictive clause occurring at the edge can only occur on the left edge, preceding all other elements within the nominal expression. However, as mentioned earlier, a non-restrictive is in position III, not in position I.

Finally, consider (73e). Demirdache (1991), following Sells (1985a), points out that appositives - but not restrictives - are affected by the presence of negation in the main clause: no phrase modified by an appositive can be in the scope of a negative marker in the matrix clause:

(85) *Every rice-grower in Korea doesn’t own a wooden cart, which he uses when he harvests the crop.

Chinese behaves differently, regardless of where a relative clause is:

(86) a. mei-ge nongfu dou mei-you yi-liang [yong-lai shouge de] chezi.
   every-CL farmer all not-have one-CL use-for harvest DE cart
   ‘Every farmer doesn’t have a cart that he uses for harvesting.’
   every-CL farmer all not-have use-for harvest DE one-CL cart

The relative in position III, as in (86a) is quite acceptable. The unacceptability of (86b) has to do with the fact that a modifier in position I of (72) (before number, without a demonstrative) makes the expression specific or definite.26

In brief, relatives in position I and III are not equivalents of English restrictive and appositive (non-restrictive) clauses. According to Del Gobbo, citing Huang (1982), a more appropriate distinction can be made in terms of modification scope: a relative clause modifies what follows it (the scope of modification is the elements to the right of the modifier). A relative in position I modifies [(Demonstrative) + Number + Classifier + Noun]; a relative in position III modifies [Noun].27 The demonstrative in these two patterns function differently. In the pattern [Demonstrative + Number + Classifier + Relative + Noun], the demonstrative is a deictic expression. It refers to a designated definite entity (‘this one’, ‘that one’). The said entity has
the property expressed by the relative. In the pattern [Relative + Demonstrative + Number + Classifier + Noun], the demonstrative is an “anaphoric” expression (see chapter 10 for the notion of anaphoric). It is identified by the preceding relative. This distinction can also be understood in terms of a descriptive vs. identification/referential use of the relative, as proposed by Lu (1998). Lu notes that position I (his pre-Q) modifiers are referential (helping identifying the referent of the nominal expression) and position III (his post-Q) modifiers are descriptive (helping with the description of the property).

To capture the fact that a modifier modifies the elements to its right, Huang (1982) proposes a modification structure in Chinese like the one below, with Mod modifying its sister constituent:

(87) XP
  Mod X’
  Mod X’
  Mod X’

The XP can be a nominal phrase - NP. A modifier is “adjoined” to N’ (an adjoined element is neither a specifier nor a complement). N’ can be repeated as many times as the number of modifiers. Although the theoretical framework and the conceptions of nominal structures change over time, the insight of such an adjunction structure and the scope of modification remain, as we see in the following sections on the structure and derivation of relatives.

7.2.2. Movement

Let us begin with the question of how relatives are derived. As mentioned at the beginning of this chapter, relative and topic structures have been claimed to be instances of wh-movement (A’-movement). We showed in section 7.1 that topic structures in Chinese can be derived by movement. The movement yields a gap. In contrast, if a pronoun appears in place of a gap, the topic structure does not exhibit movement properties. The two differ in the possibility of reconstruction. In a topic construction with a gap, the topic can behave like being in the gap position. In a topic structure with a pronoun, the topic phrase does not behave as it is in the pronoun position. The tests used were the binding principles and the distribution of idioms.

Do relatives behave like topic structures in these respects? It has been argued in Chiu (1995) that the morpheme suro in Chinese relatives is an indication of movement. Specifically, suro occurs only when the object of a verb (accusative object) is relativized. The object position must be empty. The following examples illustrate this generalization. Only (88), which relativizes an accusative object, is acceptable with suro. The sentences in (89)-(92) do not relativize an accusative object and do not accept suro (Examples are from Chiu 1995, 78-81).

(88) a. [Lisi mai __ de] neixie shu
    Lisi buy DE those book
    ‘the books that Lisi bought’

    b. [Lisi suro mai __ de] neixie shu
    Lisi SUO buy DE those book
(89) a. [___ lai-guo __ de] neixie ren
    ‘the people that Lisi went to’

---subject relativization

---accusative object relativization

---subject relativization
In addition, a pronoun in place of the gap in the object position makes *suo* unacceptable.

(92) a. [Lisi renshi (ta) de] neige ren
    Lisi know him DE that-CL person
    ‘the person that Lisi knows (him)’

b. *[Lisi suo renshi ta de] neige ren
    Lisi SUO know him DE that-CL person

These examples show that relatives are like topic structures: movement applies and derives a gap. The appearance of a pronoun indicates the absence of movement. *Suo* is a clue to relativizing an accusative object by movement. The postverbal object position (where an accusative object is) must be empty when *suo*, referred to as an object clitic by Chiu, appears before the verb.

In what follows, we will show that relativization, even in the cases without *suo*, indeed is a movement structure when the relativized position is a gap. If a pronoun appears, movement has not taken place. The distinction is supported by reconstruction tests. A relative clause is, as proposed in Huang (1982), adjoined to its modifiee. For convenience, we will refer to the nominal expression modified by the relative clause the Head (of the relative construction).

### 7.2.2. Movement properties

When movement takes place, island conditions must be relevant. We saw in section 7.1.2 how island conditions constrain topicalization. They apply in exactly the same manner to derive relatives containing a gap. Indeed, all the examples given in section 7.1.2 can have the relativization counterpart with identical acceptability judgments. For instance, just as topicalization in (40a-b) is unacceptable, so is the corresponding relativization in (93a-b).

Lisi: I know many people who like e.

‘Lisi, I know many people who like e.’

b. *Lisi: [wo hen xihuan [[[e: chang ge] de] shengyin]].

Lisi: I very like sing song DE voice

‘Lisi, I like the voice with which e sings.’

(93) a. *[wo renshi [henduo [xihuan e] de] nage nuhai]  

I know many like DE person DE that-CL girl

‘the girl that I know many people who like e’

b. *[wo hen xihuan [[[e: chang ge] de] shengyin] de] nage nuhai]

I very like sing song DE voice DE that-CL girl

‘the girl that I like the voice with which e sings’

Similarly, just like (42), (94) is unacceptable:

(42) *Zhangsan: wo kanjian-le [e: baba].

Zhangsan: I see-PERF father

‘Zhangsan, I saw [his] father.’

(94) *[[wo kanjian-le [e: baba] de] nage nuhai].

I see-PERF father DE that-CL girl

‘the girl that I saw [her] father.’

The preposing of [e: baba] makes both topic and relative structures acceptable, due to the availability of a properly identified pro (the GCR).

(95) Zhangsan: [e: baba] wo kanjian-le.

Zhangsan: father I see-PERF

‘Zhangsan, [his] father, I saw.’

(96) [[[e: baba] wo kanjian-le de] nage nuhai].

father I see-PERF DE that-CL girl

‘the girl whose father I saw.’

In brief, relative and topic structures are very much alike with respect to their sensitivity to island conditions. That is, when a gap is present, they exhibit island effects. Even though there are cases where the island conditions appear to be violated, they can be accommodated by the GCR.

Relatives with a gap also behave like the corresponding topic structures with respect to the relevance of reconstruction effects. The following examples show that the reflexive contained in the Head can be interpreted as if they are inside the relative clause. (97a) shows that the binding of ziji ‘self’ by the c-commanding ‘everyone’ is possible. When the expression containing ziji is relativized, binding is still possible, as in (97b).

(97) a. wo jiao Zhangsan quan meigeren, kai ziji, de chezi guolai.

I ask Zhangsan persuade everyone drive self DE car come

‘I asked Zhangsan to persuade everyone to drive self’s car over.’

b. [[[wo jiao Zhangsan quan meigeren, kai t guolai de] ziji, de chezi].

In brief, relative and topic structures are very much alike with respect to their sensitivity to island conditions. That is, when a gap is present, they exhibit island effects. Even though there are cases where the island conditions appear to be violated, they can be accommodated by the GCR.

Relatives with a gap also behave like the corresponding topic structures with respect to the relevance of reconstruction effects. The following examples show that the reflexive contained in the Head can be interpreted as if they are inside the relative clause. (97a) shows that the binding of ziji ‘self’ by the c-commanding ‘everyone’ is possible. When the expression containing ziji is relativized, binding is still possible, as in (97b).

(97) a. wo jiao Zhangsan quan meigeren, kai ziji, de chezi guolai.

I ask Zhangsan persuade everyone drive self DE car come

‘I asked Zhangsan to persuade everyone to drive self’s car over.’

b. [[[wo jiao Zhangsan quan meigeren, kai t guolai de] ziji, de chezi].
I ask Zhangsan persuade everyone drive come<sep>self's car that I asked Zhangsan to persuade everyone to drive over’

The reconstruction effect is also exhibited in the following cases containing bound pronouns in a relativized Head. (98a) and (98c) show that the binding of the pronoun by ‘every student’ is possible. (98b) and (98d) illustrate that the relativization of the expression containing the pronoun can still be bound by ‘every student’ inside the relative clause.

(98) a. wo xiwang mei-ge xuesheng, dou neng ba wo gei ta_i de shu dai
I hope every-CL student all can BA I give his book bring lai
come ‘I hope every student_i can bring the book that I gave to him_i.’

b. ni hui kandao [[wo xiwang mei-ge xuesheng_i dou neng dai t lai
you will see I hope every-CL student all can bring come de] wo gei ta_i de shu].
DE I give his book
‘You will see the book that I gave to him_i that I hope every student_i will bring.’

c. meigeren_i dou yiwei wo yijing mai-dao wo yao song gei ta_i de liwu.
everyone all think I already bought I will give to him DE present
‘Everyone thought I already bought the present that I was going to give to him.’

d. [[meigeren_i dou yiwei wo yijing mai-dao t de] wo yao song gei ta_i de liwu]
everyone all think I already bought DE I will give to him DE present ‘present that I was going to give to him that everyone thought I already bought’

The relatives containing idioms show the same reconstruction effects. Parts of an idiom can be separated in the relativized Head position and inside the relative clause.

(99) a. [[ta chi e_i de] cu_i] bi shei dou da.
he eat DE vinegar compare who all big ‘Lit: The vinegar he eats is greater than anyone else’s.’
‘His jealousy is greater than anyone else’s.’

b. wo ting-bu-dong[[ta you e_i de] mo_i].
I listen-not-understand he hu- DE-mor ‘Lit: I do not understand the -mor that he hu-ed.’
‘I do not understand his humor.’

7.2.3. Base generation

In addition to movement, a relative construction can also be base-generated, just like topic structures. Consider the following examples. An overt pronoun occurs where the Head is interpreted in the relative clause; i.e, the overt pronoun is a resumptive pronoun in the relative clause:
In these cases, the binding of the anaphor or the bound pronoun contained in the Head by ‘everyone’ within the relative clause is not acceptable. That is, reconstructing effects are not manifested. (100a-b) contrast with the following cases, where an empty category replaces the overt pronoun. Reconstruction effects are present.

(101) a. wo xiang kan [[ni shuo meigeren j hui dai ta_i huilai de] [ziji de pengyou]].
    I want see you say everyone will bring him back DE self DE friend
    ‘I want to see self’s friend that you said that everyone would bring back.’

    b. wo xiang kan [[ni shuo meigeren j hui dai ta_i huilai de] [wo jieshao-guo
    introduce-Exp to him DE friend
    I want see you say everyone will bring back DE I]
    ‘I want to see the friend that I have introduced to him that you said everyone would bring back.’

As expected, (100b), whose Head contains the pronoun ta_i ‘he’, can be made acceptable by not requiring the reconstructed interpretation. Thus, if the index of the pronoun ta_i is changed to a different one, such as k, the sentence is acceptable.

With a resumptive pronoun, the island conditions are irrelevant. A pronoun may occur in contexts inaccessible to movement.

(102) a. wo xiang kan [[ni [yinwei ta_i bu hui lai] hen shengqi de] [na-ge xuesheng]].
    I want see you because he not will come very angry DE that-CL student
    ‘I want to see the student that you are angry because he would not come.’

    b. wo xiang kan [[ni yaoqing [dai ta_i lai de ren] lai zher de] [na-ge
    I want see you invite bring him over DE person come here DE that-CL
    student
    ‘I want to see the student that you invited the person over that brought him over.’

The acceptability of sentences like (102a-b) requires a base-generation strategy to derive the relative construction.

In brief, the discussion so far showed that, just like topic structures, relatives can be derived by movement or base-generation. The two are distinguished by the appearance of a gap vs. a pronoun. When the relativized position inside the relative clause is a gap, the relative is sensitive
to island constraints and exhibits reconstruction effects. When a pronoun replaces the gap, island conditions are irrelevant and reconstruction effects are absent.

7.2.4. Relative operator

As demonstrated, gaps and pronouns are a good indication of how a relative construction is derived. However, the morphological clue does not always work. There are instances without a gap but movement is still relevant. An example is the relativization of ‘how’ and ‘why’ expressions, as noted by Ning (1993).

*Weishenme* 'why' and *zhenme* 'how' have an interesting use in Chinese relatives. They can occur “resumptively” within the relative clause when the Head is *yuanyin/liyou* 'reason' for ‘why’, *fangfa* 'method', or *yangzi* 'manner' for 'how'. This contrasts with other *wh*-words unable to be used in this manner, such as *shei*’who’, *shenme shihou* ‘when’. The “resumptive” ‘how’ and ‘why’ are optional (i.e., a gap may appear instead).

(103) a. ?ta (ruhe/zhenme) xiu che de fangfa, meiren zhidao.  
he how fix car DE method nobody know  
‘Nobody knows the way (how) he fixed the car.’

b. ta (weishenme) bu lai de yuanyin, meiren zhidao.  
he why not come DE reason nobody know  
‘Nobody knows why he fixed the car.’

c. ni kandao ta/shei mama de xiaohai;  
you see he/who mother DE child  
‘the child whose mother you saw’

d. *ni zai shenme shihou lai de shihou,  
you at what time come DE time  
‘the time when you came at what time’

Such *wh*-words inside a relative can be related to the Head noun across clausal boundaries:


this exactly is he feel you should how fix car DE method  
‘This is the way (how) he feels you should fix the car t_i.’

b. zhe jiu shi [[women yiwei [ta (weishenme) mei lai] de] yuanyin].

this exactly is we thought he why not come DE reason  
‘This is the reason why we thought he did not come t_i.’

However, such they cannot occur within an island:

(105) a. *zhe jiu shi [[ruguo ta (weishenme) shengqi ni hui bu gaoxing] de] yuanyin].

this exactly is if he why angry you will not happy DE reason  
‘*This is the reason you will not be happy if he gets angry why’

b. *zhe jiu shi [[ruguo ta (zhenme) xiu che ] ni hui bu gaoxing] de] fangfa].

this exactly is if he how fix car you will not happy DE method  
‘*This is the way you will not be happy if he fixes cars how’
These facts seem to suggest that movement has applied to the relativization of ‘how’ and ‘why’ relatives (referred to as adjunct relatives), even when these wh-words appear inside the relative clause. The movement is sensitive to island conditions. What movement is this, where an apparent “resumptive” wh-phrase is allowed? The answer may lie in where movement takes place or what properties characterize wh-words in Chinese. The former has to do with the distinction of overt and cover movement. The latter concerns the indeterminant use of wh-phrases (see Cheng 1991, Huang 1982, Kim 1989, 1991, Kuorda 1965, Li 1992, Nishigauchi 1986, Tsai 1994). We leave the discussion of these issues to the next chapter.

Putting aside the possible alternatives and specific mechanisms, let us entertain the option that the generation of these adjunct relatives involves the movement of an operator equivalent to why in English. That is, these relatives have a structure like (106) in English at some level in the grammar, with the relative operator at the peripheral position of the relative clause.

(106) I heard the reason why he would not come here.

That a relative operator is present can be supported by the unacceptability of sentences like the one below, which disallows an interrogative wh-phrase inside the relative.

(107) *He heard the reason you asked whom to fix the car?

The unacceptability of (107) can be captured by a familiar “minimality” effect prominent in the Minimalist Program (Chomsky 1991, 1993, 1995, for instance). As will be shown in the next chapter, shei needs to be associated with an operator. The linking to an operator generally shows a “minimality” effect: the link has to be the shortest (cf. the notion of Attract Closest in Chomsky, …. or the Minimal Binding Requirement in Aoun and Li 1993). Because the sentence (107) is an interrogative, the wh-phrase is interpreted in the matrix clause (see chapter 8 for the details). That is, shei should be related to an operator in the matrix clause to make a question (the relevant operator being a question operator). This relation is intervened by the relative operator in the peripheral position of a relative clause, resulting in unacceptability. (107) minimally contrasts with (108), which does not contain an interrogative wh-phrase and is acceptable:

(108) He heard the reason you asked him to fix the car.

Similar “minimality” effects can be found in (109) and (110), which relativize an argument. The only difference between the (a) sentences in (109) and (110) and the (b) sentences lies in the presence vs. absence of an interrogative wh-phrase in the relative clause.

(109) a. *He likes who plans to ask him to come talk.

(109) b. He likes who plans to ask him to come talk.

(110) a. *He likes who plans to ask him to ask someone to fix the car.

(110) b. He likes who plans to ask someone to fix the car.
‘*He likes the author that who planned to ask him to come to talk?’
b.  ta xihuan [[Zhangsan dasuan qing ta, lai yanjiang de] zuojia].
   he like Zhangsan plan ask him come talk DE author
   ‘He likes the author that Zhangsan planned to ask him to come to talk.’
(110) a.*ta yao jian [[shei xiang zhao tamen, lai zher de] xueshengi].
   he want see who want seek them come here DE student
   ‘*He wants to see the students that who wants to bring them here?’
b. ta yao jian [[laoshi xiang zhao tamen, lai zher de] xueshengi].
   he want teacher want seek them come here DE student
   ‘He wants to see the students who the teacher wants to bring here.’

Like the case with adjunct relatives, such a contrast indicates that the unacceptable sentences contain a relative operator at the peripheral position of the relative clause, which intervenes between the interrogative wh-phrase inside the relative clause and a question operator in the matrix clause.

Interestingly, however, when the resumptive pronoun coindexed with the Head is replaced by a gap, the unacceptable (a) sentences in (109)-(110) become better:

(109)  ta xihuan [[shei dasuan qing ∅, lai yanjiang de] zuojiai]?
   he like who plan ask come talk DE author
   ‘He likes the author who planned to ask him to come to talk?’
(110)  ta yao jian [[shei xiang zhao ∅, lai zher de] xueshengi]?
   he want see who want find come here DE student
   ‘He wants to see the students who wants to bring them here?’

Why does such a contrast exist between the cases containing a resumptive pronoun and those with a gap in regards to the “minimality” effect? Note that our minimality account for the (a) sentences in (109)-(110) is based on the presence of a relative operator in the peripheral position of the relative clause. Logically, then, the improvement shown by the (c) sentences is an indication of the absence of the relative operator. This is the analysis proposed by Aoun and Li (2003, chapter 4-6) on the two types of relative constructions: one type contains a relative operator and the other involves the raising of the relativized nominal to the Head position. The latter is the pattern relativizing an argument (argument relative) and yielding a gap. The former has two constructions: adjunct relatives and argument relatives with a pronoun. Argument relatives with a gap are derived by directly raising the nominal without resorting to a relative operator. Adjunct relatives, a priori, cannot be derived by directly raising the relativized phrase because the relativized phrase is an adverbial but the Head is nominal. An element adverbial in category cannot turn into a nominal after movement. Therefore, the nominal Head of an adjunct relative must be base-generated. Moreover, as shown earlier, relatives containing a pronoun instead of a gap are not derived by movement. They are base-generated.

That such a contrast in derivation exists is supported by the differences with respect to reconstruction effects. A Head derived by raising shows reconstruction effects, but not a base-generated Head. In the (a) cases of (109)-(110), a resumptive pronoun appears and no movement has applied. In the (c) cases, the gap indicates derivation by movement. Accordingly, the former
pattern does not show reconstruction effects; whereas the latter does. This difference is illustrated by the unacceptability of (111a-b) and the acceptability of (112a-b).

(111) a. *wo xiang kan [[ni shuo meigerenj hui dai ta_i hui-lai de] [ziji de pengyou],] I want see you say everyone will bring him back DE self DE friend ‘I want to see self’s friend that you said that everyone would bring back.’

b. *wo xiang kan [[ni shuo meigerenj hui dai ta_i hui-lai de] [wo jieshao-guo gei ta_j de pengyou]], introduce-Exp to him DE friend ‘I want to see the friend that I have introduced to him that you said everyone would bring back.’

(112) a. wo xiang kan [[ni shuo meigerenj hui dai Ø_i huilai de] [ziji de pengyou]], I want see you say everyone will bring back DE self DE friend ‘I want to see self’s friend that you said that everyone would bring back.’

b. wo xiang kan [[ni shuo meigerenj hui dai Ø_i huilai de] [wo jieshao-guo gei ta_j de pengyou]], introduce-Exp to him DE friend ‘I want to see the friend that I have introduced to him that you said everyone would bring back.’

The following generalizations emerge:

(113) a. Relatives with a gap in argument positions:
A relative can be derived by directly raising the nominal to be relativized to the Head position. The Head is related to the trace in an argument inside the relative.

b. Relatives with the Head related to an adjunct or a pronoun in an argument position
The Head of the relative is base-generated. The Head-relative clause relation is via a relative operator at the peripheral position of the relative clause.

The two types of relatives can be further distinguished by another interesting property: the possibility of a null Head. Relative constructions of the type in (113a) allow the Head to be null but those involving an operator (113b) do not. The following examples illustrate the nominal and adjunct contrast:

(114) a. lai zher de Ø come here DE ‘the one that came here’

b. ta zuo de Ø he do DE ‘the thing that he did’

c. *ta xiu che de Ø he fix car DE ‘the (way) that he fixed the car’

d. *ta likai de Ø he leave DE ‘the (reason) that he left’
A null Head in relatives with resumption is not possible:

(115) a. *[ni shuo Zhangsan hui dai ta_i, huilai de] [∅]  
   I want see you say Zhangsan will bring him back DE
   ‘I want to see the one that you said that Zhangsan would bring back.’

   b. *[ni [yinwei ta_i bu lai] hen shengqi de] [∅].
   I want see you because he not come very angry DE
   ‘I want to see the one that you are angry because he would not come.’

   c. *[ni yaoqing [dai ta_i, lai de ren] lai zher de] [∅].
   I want see you invite bring him over DE person come here DE
   ‘I want to see the one that you invited the person over that brought him over.’

Note that it is not the case that expressions of how and why cannot appear in the null form. This prohibition against a null head is in effect only when relative clauses are present.

   he fix car DE method compare I fix car DE method good
   ‘The way he fixes cars is better than the way I fix cars.’

   b. *[[ta xiu che de] fangfa] bi [[wo xiu che de] [∅] hao.
   he fix car DE method compare I fix car DE [∅] good
   ‘The way he fixes cars is better than the (way) I fix cars.’

   c. [[ta xiu che de] fangfa] bi [[wo de] [∅] hao.
   he fix car DE method compare I DE [∅] good
   ‘The way he fixes cars is better than mine.’

The acceptability of (116c) contrasts with the unacceptability of (116b): when the modifier is a nominal phrase, not a relative clause, the modified Head can take a null form. The following examples are further illustrations:

(117) a. [[ta bu neng lai de] yuanyin] wo zhidao le; [[ni bu neng lai de] yuanyin] ne?
   he not can come DE reason I know LE you not can come DE reason Q
   ‘The reason that he cannot come, I know; how about the reason you cannot come?’

   b. *[[ta bu neng lai de] yuanyin] wo zhidao le; [[ni bu neng lai de] [∅] ne?
   he not can come DE reason I know LE you not can come DE [∅] Q
   ‘The reason that he cannot come, I know; how about the (reason) you cannot come?’

   c. [[ta bu neng lai de] yuanyin] wo zhidao le; [[ni de] [∅] ne?
   he not can come DE reason I know LE you DE [∅] Q
   ‘The reason that he cannot come, I know; how about yours?’

(118) a. ?ta ruhe/zenme, xiu che de [∅], meiren zhidao.
   he how fix car DE nobody know
   ‘Nobody knows the (way) (how) he fixed the car.’

   b. ta weishenme, bu lai de [∅], meiren zhidao.
   he why not come DE nobody know
   ‘Nobody knows the (reason) why he fixed the car.’

Because the unacceptable cases are those involving an operator, it is possible that such a contrast
is due to some requirement on the relative operator: a relative operator needs to be identified in the sense that some content (restriction) needs to be provided for the operator to be interpreted. A null form does not have enough content to identify the null operator. Alternatively, it is possible to claim that a relative clause is licensed when the relative operator and the Head match in features, including phi-features (person, number etc.) and substantive features such as [human], [place], [time]. However, an empty Head does not have lexical content and does not have all of these features. In contrast, for relatives derived by directly raising a nominal to the Head position, a null form (not an operator) can be base-generated and moved there. No operator needs to be identified. A null Head, therefore, is acceptable in such cases.

Summing up, the brief discussion in this section is meant to demonstrate that a relative clause can be derived by directly raising a phrase to the Head position. It may also involve a relative operator in the peripheral position of the relative clause and a base-generated Head. The former always leaves a gap in the relativized position within the relative clause. The latter allows a pronoun or an (optional) “resumptive” adjunct wh in place of a gap. The difference in derivation and the relevance of a relative operator is supported by the interaction with an interrogative wh-phrase inside the relative clause, the presence or absence of the reconstruction effect, and the possibility of a null Head.

Relatives are interesting not only in the complexities of their possible derivations but also in the range of structures. For lack of space, we will just briefly discuss in the next section an important aspect regarding the syntactic representation of relatives.

7.2.5. NP adjunction

We understand that the function of a relative clause is to modify the Head. Structurally, there have been different representations of a relative construction, which do not always intuitively capture the modification relation. Two main approaches are (i) an adjunction structure (see Schachter 1973, Vergnaud 1974, for instance) and (ii) a complementation structure. An adjunction structure adjoins a relative clause to its Head. If a relative clause appears pre-nominally, it is adjoined to the left of the Head (left-adjunction): [NP Relative CP + Head NP]. If post-nominally, it is right-adjunction: [NP Head NP + Relative CP]. A complementation structure, such as the one proposed in Kayne (1994), takes the relative clause to be the complement of a determiner (D). Such an analysis, crucially, makes the distinction between an NP and a DP, to be discussed in chapter 9. We jump ahead and bring the relevant points here.

A determiner - the in English, for instance – heads a functional projection. It is a D projection. The D head can take a complement. Take the complement of a D to be an NP. A nominal expression such as the big boy in English has the structure [DP [D the] [NP big boy]]. In the case of relatives, the functional projection D is subcategorized for a clause, CP, according to Kayne. The Head noun is raised to the Spec of CP:

\[
\begin{align*}
(119) & \quad [DP \ D \ [CP \ DP_1 \ [C \ [IP ... e_1 ...]]]]
\end{align*}
\]

According to Bianchi (2001), such a structure is supported by the following generalizations:
(120) i. Because the relative CP is the complement of D, the presence of a relative CP entails the presence of D.
   ii. A selection relation between D and CP exists.
   iii. D does not form a constituent with the Head NP, which is in Spec of CP.

Without elaborating on the details, we simply focus on (120i) because of its direct implications for the structure of a relative construction in Chinese.

Important facts illustrating (120i) involve coordination structures. Generally, English allows and to conjoin DPs, NPs and NPs modified by adjectives.

(121) a. He saw [[an actor] and [a producer]]. ---DP coordination
    b. He is an [[actor] and [producer]]. ---NP coordination
    c. He is a [[great actor] and [brilliant producer]]. ---Adj + NP coordination

However, when a relative clause occurs with a conjunct, the conjunct must contain a determiner, suggesting that what is conjoined must be DPs (see Longobardi 1994).

(122) a.*He is an [[actor that wants to do everything] and [producer that wants to please everyone]].
    b. He is [[an actor that wants to do everything] and [a producer that wants to please everyone]].
    c. He is an [[actor] and [producer]] that wants to please everyone.
    d. He is [[an actor] and [[a producer] that does not know how to produce]].

The contrast between (122a) and (122b) demonstrates the obligatoriness of a determiner when a relative clause occurs. The relative clause in (122c) must modify both of the conjuncts, not just one of the conjuncts. Nonetheless, a relative clause can, in principle, modify only one conjunct. If the conjunct has a determiner, the modification of that single conjunct is acceptable (122d). These facts support the necessity of a DP projection when a relative clause occurs. However, relatives in Chinese behave differently, as we turn to next.

First, jumping ahead, we assume that Chinese also distinguishes a DP from an NP; a typical nominal expression can be expressed as: [DP Demonstrative [NumP Number Classifier [NP N]]] (see chapter 9). The element following a classifier is an NP. The one containing a demonstrative is a DP. When a number and a classifier appear, the projection must be larger than an NP (a NumP or DP). Semantically, a DP is an individual-denoting expression; an NP, property-denoting.

With respect to conjunction, just like English allowing conjunction of two NPs, as in (123), Chinese has the same construction, as in (124).

(123) He is a [secretary and typist].
(124) ta shi [mishu jian daziyuan].
    he is secretary and typist
    ‘He is a secretary and typist.’
The expression *secretary and typist* describes the dual roles of one individual. In Chinese, a number and classifier expression *yi-ge* ‘one-CL’, more or less like an indefinite determiner in English, can also occur before the conjunction:

(125) ta shi yi-ge [mishu jian daziyuan].
    he is one-CL secretary and typist
    ‘He is a secretary and typist.’

Further examples illustrate conjunctions describing one individual:

(126) a. wo xiang zhao yi-ge [mishu jian daziyuan]. ---one person being sought
    I want find one-CL secretary and typist
    ‘I want to find a secretary and typist.’

    b. wo yao zuo yi-ge [yisheng jian hushi]. ---doctor and nurse simultaneously
    I want do one-CL doctor and nurse
    ‘I want to be a doctor and nurse.’

Relevant to our discussion is the use of the conjunctor *jian* in such examples. In contrast to *and* in English, which can be used to conjoin like phrases of basically any category, Chinese has a rich set of conjunctors used to connect different types of like categories. For instance, if two individual-denoting expressions are connected, the connector is *he* or *gen*, which contrast with *jian*, a connector used exclusively to connect two properties pertaining to one individual.

(126a-b) should be contrasted with the following sentences where the conjunction of two individuals requires *he/gen* and is indicated by the addition of a number+classifier expression to the second conjunct as well as the first.

(127) a. wo xiang zhao [[yi-ge mishu] he/gen [yi-ge daziyuan]].
    I want find one-CL secretary and one-CL typist
    ‘I want to find a secretary and a typist.’

    b. wo yao kan [[yi-ge yisheng] he/gen [yi-ge hushi]].
    I want see one-CL doctor and one-CL nurse
    ‘I want to see a doctor and a nurse.’

Not only can number+classifier+noun expressions denoting individuals be connected by *he/gen*, but also other individual-denoting expressions such as proper names, pronouns and expressions with demonstratives:

(128) a. wo hen xihuan [[zhe-ge xuesheng] he/gen [na-ge xuesheng]].
    I very like this-CL student and that-CL student
    ‘I like this student and that student.’

    b. wo hen xihuan [[ta] he/gen [Zhangsan]].
    I very like him and Zhangsan
    ‘I like him and Zhangsan.’
Such conjunction of individual-denoting expressions is not possible with *jian*. Thus, replacing *he/gen* in (127) with *jian* is unacceptable:

(129) a. *wo xiang zhao [[yi-ge mishu] jian [yi-ge daziyuan]].
   I want find one-CL secretary and one-CL typist
   ‘I want to find a secretary and a typist.’
   b. *wo yao kan [[yi-ge yisheng] jian [yi-ge hushi]].
   I want see one-CL doctor and one-CL nurse
   ‘I want to see a doctor and a nurse.’

(130) a. *wo hen xihuan [[zhe-ge xuesheng] jian [na-ge xuesheng]].
   I very like this-CL student and that-CL student
   ‘I like this student and that student.’
   b. *wo hen xihuan [[ta] jian [Zhangsan]].
   I very like him and Zhangsan
   ‘I like him and Zhangsan.’

*Jian*, as already shown, can be used to connect two properties describing one individual. It can also connect two activities for one individual. That is, it can connect two VPs:

   Zhangsan study and work very busy
   ‘Zhangsan studies and works; (he is) busy.’
   b. wo [[sheji] jian [huatu]], ta [[shigong] jian [jiangong]], women hezuo-de hen hao.
   I design and draft he construct and supervise we cooperate-DE very well
   ‘I design and draft; he constructs and supervises; we cooperate very well.’

When two clauses are connected, none of the above conjunctors (*he/gen/jian*) are used. Instead, *erqie* is used.

(132) a. [[wo xihuan ta] erqie [Zhangsan ye xihuan ta]].
   I like him and Zhangsan also like him
   ‘I like him and Zhangsan also likes him.’
   b. [[wo xihuan ta] erqie [Zhangsan hui zhaogu ta]].
   I like him and Zhangsan will care him
   ‘I like him and Zhangsan will take care of him.’

In sum, the function of conjunctors can be described as follows:

(133) a. The connector *jian* connects two properties of a single individual or two activities performed by one individual. In terms of categories, *jian* can connect NPs or VPs.  
   b. The connector *he/gen* connects two individual-denoting expressions, i.e., two DPs, which can be proper names, pronouns, expressions containing demonstratives or expressions containing number and classifier expressions.
   c. The connector *erqie* connects two non-nominal categories, including
clauses, adjective phrases and VPs not expressing dual properties/activities of one individual.
d. These connectors are not interchangeable.

The unique distribution of conjunctors provides us with an important test for the categorial status of complex nominals. Supposing that the complementation structure $[\text{DP} \text{ D} \text{ CP}]$ advocated by Kayne were an appropriate structure for Chinese relative constructions; then we would expect the conjunction of the relative clause with the Head (excluding D) to be possible with the CP conjunctor $erqie$. This expectation is not met:

(134) a. *wo xiang zhao yi-ge $[[fuze Yingwen de mishu] \textit{erqie} [jjiao xiaohai de jiajiao]]$.^38
   I want find one-CL charge English DE secretary and teach kid DE tutor
   ‘I want to find a secretary that takes care of English (matters) and tutor that teaches kids.’
   b. *wo yao dang yi-ge $[[neng yin shi de shiren] \textit{erqie} [neng hua huar de huajia]]$.
   I want be one-CL can sing poem DE poet and can draw painting DE painter
   ‘I want to be a poet that can sing poems and painter that can paint paintings.’

Indeed, such sentences can only be made acceptable by replacing $erqie$ with $jian$, the connector of dual properties to a single individual. Neither $he$ nor $gen$ is possible:

(135) a. wo xiang zhao yi-ge $[[fuze Yingwen de mishu] \textit{jian} [jjiao xiaohai de jiajiao]]$.
   I want find one-CL charge English DE secretary and teach kid DE tutor
   ‘I want to find a secretary that takes care of English (matters) and tutor that teaches kids.’
   b. wo yao dang yi-ge $[[neng yin shi de shiren] \textit{jian} [neng hua huar de huajia]]$.
   I want be one-CL can sing poem DE poet and can draw painting DE painter
   ‘I want to be a poet that can sing poems and painter that can paint paintings.’

(136) a. *wo xiang zhao yi-ge $[[yi-ge fuze Yingwen de mishu] \textit{he/gen} [jjiao xiaohai de jiajiao]]$.
   I want find one-CL charge English DE secretary and teach kid DE tutor
   ‘I want to find a secretary that takes care of English (matters) and tutor that teaches kids.’
   b. *wo yao dang yi-ge $[[neng yin shi de shiren] \textit{he/gen} [neng hua huar de huajia]]$.
   I want be one-CL can sing poem DE poet and can draw picture DE painter
   ‘I want to be a poet that can sing and painter that can draw pictures.’

Not surprisingly, just as (127) is acceptable with $he/gen$, which requires a number+classifier expression in the second conjunct, (136a-b) can be rescued in the same way:

(137) a. wo xiang zhao $[[yi-ge fuze Yingwen de mishu] \textit{he/gen}]$
   I want find one-CL charge English DE secretary and $[yi-ge jjiao xiaohai de jiajiao]$.
   one-CL teach kid DE tutor
   ‘I want to find a secretary that takes care of English (matters) and a tutor that teaches kids.’
b. wo yao zhao [yi-ge neng yin shi de shiren] he/gen
    I want find one-CL can sing poem DE poet and
    [yi-ge neng hua huar de huajia]].
    one-CL can draw picture DE painter
    ‘I want to find a poet that can sing and a painter that can draw pictures.’

The acceptability of (137) is not surprising. After all, a complex nominal can be an individual-denoting expression (DP). It is the use of jian in (135) that is significant. Recall that under a complementation approach, a complex nominal in English is always a DP and the category inside D is a CP. However, Chinese relative constructions can be a conjunct of jian, the NP connector, not the CP conjunctor ergie, or the DP conjuntor he/gen. This suggests that the connected categories are NPs, not CPs or DPs. Indeed, if a complex nominal were always a DP, we would not expect the conjuncts of NP conjunction to contain any relative clause. This contrasts with English, which does require a D for a relative construction. Some of the relevant examples are repeated here.

(138) a. *He is an [[actor that wants to do everything] and [producer that wants to
    please everyone]].
    b. He is [[an actor that wants to do everything] and [a producer that wants to
    please everyone]].

Summarizing, the contrast between the Chinese (135) and the English (138) clearly argues for the different categorial status of a relative construction in these two languages: it can be an NP in Chinese; but it must be a DP in English. Moreover, because a relative clause can be adjoined to an NP Head and still be conjoined by the NP-conjuctor jian, the relative construction should have a left-adjunction structure [NP CP NP].

A remaining question is this: Chinese allows a relative clause in at least position I and III in (138a-b):

(139) a. Demonstrative + Number + Classifier + Noun
    I II III
    b. Number + Classifier + Noun
    I III

What we have suggested only generates a relative clause in position III. How is a relative clause in position I be derived? It is possible that a relative clause in I is derived by moving the relative clause in III upward, after the number and classifier expressions are merged with the NP. The motivation for movement may be (contrastive) focus (see Hsieh 2004, Zhang 2004) or referentiality (Lu 1998). Readers are referred to these works for detailed discussions.

7.3. Gapless structures
To complete the paradigm of relative constructions, we would like to briefly discuss the so-called gapless relative structures in Chinese --- those without a gap or a resumptive pronoun in the relative clause. This is illustrated by the following examples:

(140) a. zhe jiu shi [[ta kao-shi de] jieguo]  
   this exactly is he take-exam DE result  
   ‘This is the result of his exam-taking.’  
b. zhe jiu shi [[ta chang-ge de] shengyin]  
   this exactly is he sing-song DE voice  
   ‘This is his singing voice.’  
c. zhe jiu shi [[ta zuo-e de] houguo]  
   this exactly is he do-evil DE consequence  
   ‘This is the consequence of his evil-doings.’  
d. zhe jiu shi [[ta sha zhe-ge xiaohai de] jiama]  
   this exactly is he kill this-CL child DE price  
   ‘This is the price for him killing the child.’

In such instances, the relative Head cannot be related to any position within the relative clause. Importantly, such relative clauses are much more limited. The Head noun must be related to the entire relative clause; it cannot just be related to an embedded clause. Therefore, (141a) is not acceptable because ‘the voice’ is unable to be related to the embedded clause within the relative clause. Neither is (141b) acceptable because the consequence is unable to be related to the embedded clause.

(141) a.*zhe jiu shi [[wo xihuan [ta chang-ge de] shengyin]  
   this exactly is I like he sing-song DE voice  
   ‘This is the voice of my liking him singing.’  
b. *zhe jiu shi [[wo ting-shuo [ta zuo-e de] houguo]  
   this exactly is I hear-say he do-evil DE consequence  
   ‘This is the consequence of my hearing him do evil.’

This type of “relative clause” may not be the typical relative clause that we are familiar with. More precisely, this pattern, rather than being a counterpart of the English [Head + Relative clause], is more like a Head noun with a preposition and XP (a PP) in English, such as [the price [for him killing the boy]], [the sound [of his singing]], [the consequence [of his evil doings]]. Just like these English cases where the entire PP bears a direct modification relation to the Head noun, the Head noun in (140)-(141) must also be modified by the entire "relative clause," rather than a subpart of it (such as an embedded clause, as in (141)).

(141)a-b) can be contrasted with (142a-b), which also contain embedded clauses but are acceptable. They are acceptable because the voice is related to the voice of my imagination (of his singing) and the consequence is related to my liking him to do evil.
(142) a. zhe jiu shi [[wo xiangxiang ta chang-ge de] shengyin] this exactly is I imagine he sing-song DE voice ‘This is the sound of my imagining him singing.’

b. zhe jiu shi [[wo ting-shuo ta zuo-e de] hougou] this exactly is I hear-say he do-evil DE consequence ‘This is the consequence of my liking him to do evil.’

1 Generally, a Case or a thematic position is an A position; non-case and non-thematic, an A’-position.

2 See Chomsky (1977), Browning (1987), among many others.

3 Other constructions that have been claimed to involve “wh-movement” or “A’-movement” are cleft structures, pseudo-clefts, comparatives etc. in English (see the references in note 2). It is not clear Chinese has a pseudo-cleft construction, distinct from a relative structure. Nor is it clear that A’-movement is involved in all these structures in Chinese. We leave these issues aside.

4 We will further discuss island conditions later in this and the next chapter.

5 Violation of a wh-island is not as pronounced --- a weak island (see Chomsky 1981, Cinque 1990, Rizzi 1990, for instance).

6 If an expression denotes quantity, such as ‘a novel’ below, it is possible in the preverbal position (see chapter 9):

(i) yi-ben xiaoshuo, ta yi-ge wanshang jiu kan-wan-le.  
one-CL novel he one-CL evening then read-finish-PERF ‘A novel, he finished reading in an evening.’

(ii) ta yi-ben xiaoshuo yi-ge wanshang jiu kan-wan-le.  
he one-CL novel one-CL evening then read-finish-PERF ‘He, a novel, finished reading in an evening.’

7 A generic or kind interpretation (Carlson 1977, Krifka ???) is also possible. See chapter 9 on the interpretation of different types of nominal expressions.

8 The sentences in (8b) and (8c) are acceptable if the adverb dou or ye occurs after the subject.

9 In case the object is an inanimate expression, such as in (i), the SOV order does not require a contrastive interpretation (however, see Tsai 1994, p. 138, for the claim that the object in SOV must be contrastive):

(i) ta shuxue, yixiang hen xihuan ti.  
he math always very like ‘He, math, always likes.’
A “no-ambiguity” constraint may play a role. As noted by Tsao (1977), Qu (1994) and Shyu (1995), if the two NPs can switch theta-roles and make good sentences, [NP1 NP2 V] is always interpreted as OSV, not SOV. The latter is possible only when the object is used contrastively. If they cannot switch theta-roles (e.g., *shu hen xihuan wo ‘the book likes me.’), the SOV order is acceptable without a contrastive interpretation.

10 See (18)-(19), but see additional considerations in note 9.

11 There are many works on East Asian languages arguing for the base-generation of topic and relative constructions based on “gapless” structures. See, among others, Hoji 1985, Ishii, Saito 1985, Murasugi 1991, 2000a, b.

12 For more discussions on the Binding Principles, see chapter 10.

13 The ill-formedness of (34a) cannot be attributed to a violation of the 'aboutness requirement'. In talking about an extremely boring book, the following sentence, where the topic does not contain the anaphor ziji, is well-formed:

(i) nei-ben shu, Zhangsan dou shui-zhao-le.
    that-CL book Zhangsan even fall-asleep-PERF
    ‘(As for) that book, even Zhangsan fell asleep.’

14 One may argue that gaps may exist without movement in these structures. As long as the gap related to the A’-antecedent has the same behavior of the trace derived by A’-movement, the two views cannot be distinguished empirically. However, it does contrast with an approach that does not treat the empty element as an A’-bound variable. See the next paragraph in the text regarding Xu’s free empty category.

However, there are empty categories not behaving like traces derived by movement. They have to be base-generated. An example is pro, as discussed in the next section.

15 In addition, the island conditions include a wh-island condition, which is not obeyed in topicalization. This contrasts with the relevance of a wh-island in English illustrated in (9a-b).

(i) nei-ben shui, shei xiang-zhidao shei mai-zou-le ei?
    that-CL book who wonder who buy-away-PERF
    ‘?*That book, who wondered who has bought t?’

We return to the behavior of wh-phrases in wh-questions in the next chapter.

16 Generally, a PRO is in a position not assigned Case and pro, a position assigned Case. In the framework of Government and Binding (Chomsky 1981), pro, not PRO, can be in a governed position.

17 The unacceptability of internal topicalization in these cases may be traced to the behavior of the relative constructions involving a relative operator. See the discussion on the minimality
effect regarding the interaction between interrogatives and relatives.

A distinction has been made by some linguists concerning the O of OSV as a discourse topic or a contrastive topic (Tsai 1994, Shyu 1995, for instance. See Hoji 1985 for Japanese topic structures). The former is base-generated and the latter is derived by movement. Because of the possibility of movement, a contrastive topic can be an indefinite expression, in contrast to a definite discourse topic. An indefinite contrastive topic is illustrated by sentences such as (i) below (Tsai 1994, p. 138, example (31b)).

(i) yi-pian lunwen, we hai keyi yingfu. (liang-pian, na jiu tai duo le.)
    one-CL paper    I still can handle two-CL that then too much LE
    ‘One paper, I can still handle. (Two papers, that’s too much).’

It is not clear, however, this is an indefinite expression. Li (1998) suggests that ‘one paper’ may be analyzed as a quantity expression. A quantity expression can be regarded as a definite expression or irrelevant to the definiteness requirement. See chapter 9 and Li 1998 for the distinction between a quantity-denoting expression and an individual-denoting expression.

The term “measure words” has also been widely used. For an important work on the types of words that must occur with number and their different behavior, see Tang and Wang 19??.

What is discussed here regarding relative clauses applies to adjectives as well. For an extensive and detailed work on the distribution of modifiers in different positions within nominal expressions, see Lu 1998.

A monosyllabic adjective expressing size generally and length occasionally may appear between a number and classifier, such as da ‘big’, xiao ‘small’, chang ‘long’, duan ‘short’, as in yi da kuai ‘a big piece’, yi chang tiao ‘a long strip’. Such adjectives modify the classifier.

Tsai (1994) holds the opposite view.

More specifically, if a noun is modified by an appositive, it cannot be in the scope of a negation in the matrix clause.

But see Grosu and Landman (1998) for an opposite view.

Readers are referred to Del Gobbo (2003, chapter 2) for a detailed discussion.

The terms of “strong” and “weak” quantifiers are used in Del Gobbo. Weak quantifiers have a non-specific interpretation. Strong equantifiers (every, all) and the expressions with a demonstrative (definite expressions) do not occur in contexts where a specific or definite expression is disallowed. An existential sentence is such a case:

(i) *you meigeren/na-ge ren/zai nian shu de san-ge ren zai zher.
    have everyone/that-CL person/at read book DE three-CL person at here
    ‘There was everyone/that person/the person that was reading at this place.’
Lu (1998) notes that a nominal expression with a modifier in position I is generally indefinite, unless the modifier carries a contrastive stress or the whole expression refers to a certain quantity, not individual entities (Li 1998). Also see Hsieh (2004) for the claim that a modifier in position I of (72) (without a demonstrative) is necessarily contrastive, which is not the case with a modifier in position I of (70) (with a demonstrative).

27 Stacking of modifiers makes some relatives in position III modify [Modifier + Noun], not simply a noun.

28 The following discussion is based on Aoun and Li (2003, chapter 5-6).

29 The relative containing the way how is not quite acceptable in English. Nonetheless, such a relative is still derived by movement of a relative operator.

30 To account for relative constructions with an empty Head, there have been on-and-off claims in the literature that the Head can be moved away from the relative clause. There have also been proposals that the Head can simply be deleted. The unacceptability of an empty Head in the cases of PP relativization and resumption argues against such analyses.

31 For a more extensive and detailed discussion on the properties and accounts of different types of relatives, see Aoun and Li (2003, chapters 4-7). Also see Ꙛfarli 1994, Munn 1998 and Sauerland 1998 for the two different derivations discussed in this section.

32 See Alexiadou et. al (2000) for different approaches to relatives in various types of languages and Aoun and Li (2003, chapter 4) for a summary and the varieties in English.

33 The following discussion is based on Aoun and Li (2003, chapter 5).

34 Smith (1964) argues that a relative clause is part of the determiner. Richard Larson (1991) developed the idea further by placing the determiner and the relative clause under one bigger node [NP [Det + Rel Clause]] and the determiner undergoes movement, deriving the word order [Det + NP + Rel Clause].

35 The following discussion is based on Aoun and Li (2003, chapter 5).

36 Two VPs connected by jian express dual activities performed by one person or simultaneous activities. Otherwise, the connector is erqie, which can be used to connect any non-nominal expressions. The conjuncts connected by jian cannot contain aspect markers (or negation or any other functional categories above VP):

(i) *ta nian-zhe/-le/-guo shu, jian zuo-zhe/-le/guo shi. he read-PROG/PF/EXP book, and do- PROG/PF/EXP work

37 Such a requirement of jian may have to do with the fact that jian can be a verb meaning doing something simultaneously with another, as indicated by the V-O compound jian-chai 'Jian-job=do part time work, do jobs simultaneously'.
Some speakers seem to accept such sentences, especially if the sentences are made more complicated. A remark made by one of such speakers is that they sound “interpretable but not logical” (Bingfu Lu, personal communication).

It is not surprising that the Chinese counterpart of the English [NP [P XP]] is [XP de NP]. The prepositions in question are generally quite empty: the result of his exam, the consequence of his evil doing etc. Chinese rarely uses such empty prepositions within nominal expressions (except for dui that occurs with some complements, see Fu 1994). Chinese always has modifiers to the left of N, in contrast to English, which may have modifiers to the right of N. De appears after a modifier within a Chinese nominal expression. A question, of course, is whether the prenominal modifier is a tensed clause or a gerundive expression. The distinction is not easily made in such cases. See Fu (1994) for relevant discussions.

Murasugi (1991) notes a locality condition on “gapless” relative clauses in Japanese, which is similar to the one for Chinese.