Organization of repair in Chinese conversation*

KAWAI CHUI

Abstract

This study examines the organization of repair in Chinese conversation. First, six major patterns are established which characterize how the repair source is redone, i.e., whether it is a morpheme, a word, a phrase, or a clause being recast, and whether it repeats, replaces, adds to, or abandons the original construction. Then, to investigate the potential constraint on organizing this kind of speech, the repair pattern, the syntax of the repaired segment, and the extent of recycling are analyzed.

Although repair is accomplished within the syntactic environment, the findings suggest that the way in which it is done is conditioned by neither syntax nor the repair pattern. Rather, the extent of recycling is subject to quantity and lexical-form complexity. On the one hand, a repair tends to recycle only the word immediately prior to the repair source, despite its category; on the other hand, the recycling tends to be blocked if the preceding word is in complex NP form. Both constraints are significant for the speaker attempting to resume the conversation as soon as possible and to keep it going. Moreover, they also reflect the speech preference of Chinese speakers, thus indicating a facet of conversational Chinese.

Keywords: *repair; repair pattern; recycling; Chinese discourse; quantity constraint; lexical-form complexity.*

1. Introduction

Repair is defined as "any instance in which an emerging utterance is stopped in some way, and is then aborted, recast, or redone" (Fox and Jasperson, to appear). Consider the following example.[1] The speaker, for whatever reason, cuts off the word *dou* 'all'. After replacing it with a different adverb—*dagai* 'probably'—the conversation is then resumed.

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This is an instance of repair managed by the same speaker ("self-repair") within the same turn. I employ Fox and Jasperson's terms "repaired segment" and "repairing segment" to characterize, respectively, "the portion of the utterance which is being repaired ... [and that] which is accomplishing the repair".

(1) → Z: ... *wo* dou --
1.SG all
'I
→ ... (0.8) dagai *bu* *xihuan changshi.*\
probably NEG like try
probably wouldn't like to try.'

Besides replacement, Fox and Jasperson also discuss many other patterns of self-repair, such as the repetition of previous words, the addition of new constituents, or even the abandonment of old constructions. Most of these can also be found in the present corpus of data (see section 3). In this paper, repair patterns are studied in relation to the organization of Chinese repair.

As the redoing of utterances is both very distinctive and pervasive in conversation, are there any constraints on repair? Schegloff (1979, 1987) proposes, as do Fox and Jasperson, the timing of utterances and turn organization; Fox and Jasperson further suggest that certain "styles" of repair and other linguistic facets like phonology may play a role. However, as "syntax and repair operate in the same sequential environment, they need to be investigated together" (Schegloff 1979: 277). It is the kind of "syntax-for-conversation" that Schegloff claims controls this kind of interrupted speech (1979: 280):

> The operation of repair in sentences is like a super-syntax. ... One of its resources is the capacity specifically to override syntactic ordering in the production of a next bit of talk, and this resource can be used to reconstruct the syntactic ordering of the sentence-so-far. When it operates, it sometimes creates positions in the talk at which the relations between successive items in the talk are specifically not governed by syntax but instead by some other relationship.

Fox and Jasperson's study of English repair is based rather on traditional syntax. They found a syntactic constraint to the effect that "if the repair is initiated postverbally, the repairing segment does not recycle back to the verb". To examine if the organization of repair in Chinese conversation is also conditioned by syntax, this paper analyzes the initiation of repair at various syntactic sites in the clause, and, more importantly, the extent to which original words are recycled in different syntactic environments.

The next section introduces the data and the types of repair to be investigated in this study. Section 3 presents the major repair patterns. The organization of repair is analyzed in section 4 and discussed in section 5, followed by the conclusion.

2. Corpus of data

The data consist of two commonplace, everyday conversations among friends. Each is about forty minutes long.

There are a total of 463 repair instances. As Schegloff, Sacks, and Jefferson (1977) remark, repair initiated by the speaker predominates over the kind managed by the hearer. In this corpus, only five examples of the latter type are found. In example (2) speaker L stops at the modal word *yao* 'have to', but it is speaker H who repeats the modal and finishes the utterance for L.

(2) L: ... *wo bu xiaode shi*,–
1.SG NEG know COP
... <@<L2 *careful* L2>*shi*% --
careful COP

... (.8) *ziji ne* = ?\
self PRT
→ ... *haishi* = yao =,–
or have to

→ H: ... (1.4) yao .. <L2 care for L2>,–
have to care for
L: 'What I didn't know is whether to take care of myself, or have to'
H: 'have to care for others.'

The Chinese data also bear out Schegloff's claim that "same-turn repair... is by far... the most common form of repair" (1979: 268). The turn here simply refers to the utterance of a particular speaker before others take the floor; its boundary is determined primarily by speaker change, not by the content of the speech. It is thus not completely identical to Fox and Jasperson's Turn Constructional Unit. In total, there are twelve repairs which occur across different turns, as in example (3). W's utterance is cut off at the word *zai* 'at', but the repair is interrupted by Y and Z's interaction about seeing pandas. They are included in the present study, because they are still accomplished by the same speaker.[2]

(3) Y: .. *wo xiang.*\
1.SG think
... <L2 *panda* L2> *nimen dou kan guo le ho.*\
panda 2.PL all see EXP PRF PRT
→ W: ... zai% --
at
→ Y: ... ni meiyou kan guo,–
2.SG NEG see EXP
→ Z: ... wo meiyou,–
1.SG NEG
→ W: ... zai= <L3 ueno l3>,–
at Ueno
Y: 'I think you have all seen pandas.'
W: 'I saw them at'
Y: 'You haven't seen them before?'
Z: 'I haven't.'
W: 'at Ueno.'

3. Patterns of repair

How does a repaired segment relate to a repairing segment? Is it a morpheme, a word, a phrase, or a clause being recast? Does it repeat, replace, add to, or even abandon the original construction? Fox and Jasperson have proposed seven major patterns for English. Following their lead, this section will classify the total 458 Chinese self-repairs into six main patterns in order to characterize how the source of repair is reworked.[3]

Pattern I—repetition

The speech in the following turn is stopped at the first-person pronominal *wo*. It is this single word that is recycled.

(4) → H: .. wo --
1.SG
'I
→ .. wo *shi ˆzhidao wo you zhe ge maobing a=*,–
1.SG EMP know 1.SG have this CL defect PRT
I do know I have this kind of defect.'

Sometimes, the repetition is accompanied by other words in the repaired segment, such as the subject *ni* 'you' preceding the repair source

hui 'will' below.[4] This raises the important issue of recycling which will be addressed in the next section. In short, the characteristic of this type of repair is that there is no alteration of the old message.

(5) → H: ni hui% --
2.SG will
'You will
→ ... (1.1) ni hui *fanwei a* = ?/
2.SG will vomit PRT
you will vomit.'

Pattern II—completion

Speech interruption may also occur within a word, as exemplified by *shi* of the whole compound *shijian* 'time'. It is then completed in the repair outcome. Although repair initiation can take place at constituents, recycling is always subject to words, at least with regard to this corpus.

(6) → L: ... (1.) *fanzheng* shi --
anyway time
'Anyway
→ .. shijian *dao* *le*,–
time arrive PRT
when the time comes
jiu *sheng* *le*.\
then be.promoted PRT
you will then be promoted.'

Example (7) indicates that the preceding words, *youqi* 'especially' and *xiang* 'like', can also be retraced while finishing up the compound *ruanti* 'software'.

(7) → Y: .. youqi xiang ruan% --
especially like soft-
'Especially like soft
→ ... youqi xiang ruanti.\
especially like software
especially like software.'

Finally, eight repairs seem to include more than one repair source. In the following example, not only does the original verb (*wangji* 'forget') undergo completion, but the adverbial (*quanbu* 'wholly') is also added in the outcome. Although they can form a separate pattern, they are still classified as "completion" here, because they are rare in the data base and the speech is interrupted at the unfinished words.

(8) → W: *genben dou* wang% --
basically all forget
'Basically I forgot all
→ ... (1.2) guanbu wangji *le* =,–
wholly forget PRF
wholly forgot.'

Pattern III—replacement

Another major kind of pattern is replacement. The word *kuai* 'quickly' in (9) is substituted by the adverbial *bijiao* 'comparatively' alone.

(9) → L: (0) *na jiu* kuai% --
PRT then quickly
'Then quickly
→ ... bijiao *kandedao.*\
comparatively can be.seen
comparatively, that can be seen.'

Sometimes, the substitution of a word, especially a verb, may change the original syntactic frame. Consider the following turn. When the verb *you* 'have' is replaced by the copula *shi*, the construction in the end becomes a copula clause.

(10) → H: ... (1.4) *ta* you *bieren* --
3.SG have another.person
'He has another person,
→ .. ^*ta* shi *bieren zerenqu a* =.\
3.SG COP another.person responsibility.site PRT
he is another person's responsibility.'

As far as recycling is concerned, the repair in example (11) further retraces the subject *ta* 'he', besides replacing the emphatic adverbial *jiu* (Li and Thompson 1981: 331) with *ye* 'also'.

(11) → W: .. *ranhou* ta jiu,–
then 3.SG EMP
'Then he
→ .. ta ye *hen bu gaoxing a*,–
3.SG also very NEG be.happy PRT
he was also not happy.'

Besides the backing up of prior constructions, the recycling of words after the repair source is also found. This is what Levelt (1983) called "delayed interruption" and is clearly shown in example (12). The speech

interruption occurs two words/syllables—*liang ge* 'the two'—after the verb *shou* 'take' which is replaced by the disyllabic counterpart *shouqi*. The same direct object appears again in the outcome. The data include only four instances, all undergoing replacement. Thus, the findings and the discussion in this paper are mainly concerned with the type in which words prior to the source of repair are retraced. Whether both exhibit any difference in constraining repair deserves further research.

(12) → Z: ... *gankuai* shou liang ge =.\
hurry take two CL
'Hurry, let me take those two,
→ ... (1.) shouqi liang ge =@>.\
take two CL
take those two.'

Finally, like the eight exceptional repairs discussed in the preceding subsection, there are three here involving both replacement and addition. In the turn below the verb *xie* 'write' is substituted by *song* 'send', and the emphatic adverbial *jiu* is also added in the repairing segment.

(13) → W: ... *jiao yanzaiming yong ta de mingzi* xie =,–
ask Yanzaiming use 3.SG ASSC name write
'I asked Yanzaiming to use his name to write
→ ... jiu song *yi ge* <L2 *mail* L2> *gei ta*,–
EMP send one CL mail to 3.SG
to send a mail to him.'

Pattern IV—addition

The repair pattern of addition can be exemplified by the following pair of turns. The adverbial *hai* 'still' is added to the front of the negative *mei* in example (14); the emphatic *jiu* is added between the subject *wo* 'I' and the verb *xie* 'write' in (15). Compared to the three patterns above, this type is much less common; only 27 cases are found.

(14) → L: ... (1.) *na jiu ˆtaiwan haoxiang* mei% --
PRT then Taiwan seem NEG
'Then, Taiwan does not seem
→ .. hai mei *you zhe zhong lizi a* =.\
still NEG have this CL example PRT
still does not seem to have this kind of example.'
(15) → W: wo xie =,–
1.SG write
'I wrote,

→ .. wo jiu ˆxie *shangqu a =.*
1.SG EMP write go up PRT
I wrote to people at a higher level.'

Finally, like example (10), adding a new verb to the repaired segment can also trigger a change of syntactic frame. The original main verb *shoushi* 'tidy up' in (16) becomes embedded, owing to the addition of *zhuenbei* 'prepare' playing the main-verb role.

(16) → W: *jiu zai* shoushi% --
EMP PROG tidy
'I was tidying
→ ... zhuenbei shoushi *dongxi yao zou le,–*
prepare tidy thing have to go PRT
preparing to tidy things up, and had to go.'

Pattern V—reordering

The flow of speech in example (17) is interrupted at the adverbial *ye* 'also', which reverses its order with the preceding verb in the outcome. Only two cases are found in the present corpus.

(17) → W: ... *ta na ge* <L2 *mail* L2> xie ye% --
3.SG that CL mail write also
'His mail was written
→ ... ye xie *de hen haowan,–*
also write COMPL very interesting
was also written in a very interesting way.'

Pattern VI—abandonment

Instead of recasting old constituents, as in the previous five patterns, the speaker may abandon the whole construction completely. In the turn below, what speaker O tries to question in the first place about his knowing something is entirely aborted. He then starts a new construction which suggests a message about a different subject *ta* 'he'.

(18) → O: (0) wo zenme zhidao ta hui% --
1.SG how know 3.SG will
'How can I know he will
→ ... ta zoucuolu.\
3.SG get.wrong way
he got the wrong way,
.. *bushi wo zoucuolu.*
NEG 1.SG get.wrong way
not I got the wrong way.'

The frequency distribution of various types of repair patterns is presented in Table 1. Since aborting the whole construction does not suggest any clause-internal constraint on recycling, whereas adding or reordering constituents are less common, repairs of these kinds will be excluded from further discussion. Only the first three patterns will be discussed in the next section about the organization of repair. They can further be classified into two groups, depending on the alterations to the original message. The first group (Pattern I) is "unaltered," merely repeating the old constituents; the second group (Pattern II and III) is "altered," changing the original messages in various ways. Their frequency distribution turns out to be equal: 54.9 percent for the former, 45.1 percent for the latter.

4. Organization of repair

The main purpose here is to pursue how self-repair is organized in Chinese conversation. I will examine repair patterns and the syntax of the repaired segment initiated at the major syntactic sites of the clause in the utterance.[5] In order to investigate the potential constraint on the organization of this kind of speech, it is also necessary to analyze how far a repair tends to recycle.

4.1. *Repair initiation before the subject*

A total of fourteen repairs occur at the pre-subject position, which can be filled by particles, conjunctions, topics, or adverbials. Eight of them involve word repetition, like the conjunction *chule* 'except' in example (19) and the adverbial *zuijin* 'recently' in (20).

Table 1 *Frequency distribution of the repair pattern*

	n	%
I repetition	195	42.6
II completion	98	21.4
III replacement	62	13.5
IV addition	27	5.9
V reordering	2	0.4
VI abandonment	74	16.2
Total	458	100.0

(19) → Y: ... chule,–
except
'Except
→ ... chule *zhende zai gan* <L2 *project* L2>.\
except really PROG be.hurry to finish a project
except you are really in a hurry to finish a project.'

(20) → W: .. zuijin,–
recently
'Recently
→ .. zuijin *bu zhidao*%?/
recently NEG know
recently, I don't know,
... *jiu xianzhemeishi*,–
EMP be.free.have nothing to do
I am free and have nothing to do.'

Replacement and completion can be exemplified, respectively, by substituting the topic *zhe ge difang* 'this place' with *ge ge difang* 'each different place' as in (21) and by finishing up the conjunction *danshi* 'but' in (22). Since this is the first position of a clause, the issue of recycling is not raised.

(21) → L: .. *keneng* zhe ge di[fang],–
may be this CL place
'It may be the case that this place,
((TWO IUs))
→ (0) ge ge difang,–
each.different CL place
each different place,
.. *zuofeng bu yiyang na.*\
style NEG be.same PRT
the style is different.'

(22) → Z: (0) dan --
but-
'But
→ .. danshi *wo meiyou*?/
but 1.SG NEG
but I didn't.'

4.2. *Repair initiation during the production of the subject*

The next syntactic site of repair initiation is the subject, as illustrated by the repetition of the first-person pronominal *wo* in (23), completion of

the subject compound *zhongguozi* 'Chinese character' in (24), and replacement of the pronominal *ta* 'he' with a noun phrase *yangjingli* 'manager Yang' in (25).

(23) → H: .. wo --
1.SG
'I
→ .. wo *shi* ˆ*zhidao wo you zhe ge maobing*
1.*SG EMP know* 1.*SG have this CL problem*
a=,–
PRT
'I know I have this problem.'

(24) → H: ˆzhong --
Chinese-
'Chinese
→ .. zhongguozi *zenme* ˆ*zhang name* ˆ*chou.*\
Chinese character how come look so ugly
how come Chinese characters look so ugly?

(25) → L: ... *dui* ta% --
right 3.SG
'Right, he
→ ... yangjingli *shi nengshennengsuo a*=.\
manager Yang EMP be.flexible PRT
manager Yang is flexible.'

Of the total 75 repairs initiated during the construction of the subject, the overwhelming majority are simply recast (n = 72, or 96 percent). Moreover, there are 32 instances that are accompanied by pre-subject words, such as the particle *na* 'well' and the conjunction *jiaru* 'if' in example (26), yet 90.6 percent just redo the subjects without recycling back to them, as shown clearly in Table 2.

(26) → L: ... na jiaru <L2 ˆMac L2> --
PRT if Mac
'Well, if Mac

Table 2 *Recycling of the subject*

	n	%
Redo repair source	29	90.6
Redo repair source plus one prior word	3	9.4
Total	32	100.0

→ .. <L2 Mac set up L2> *bu* *qilai dehua.*\
Mac set up NEG up if
Mac cannot be set up.'

Since in only three cases are the pre-subject words retraced, it is unlikely there is any comparison with respect to repair patterning—a potential factor controlling the extent of recycling. Proposing a syntactic barrier between the subject and the pre-subject, such that it is not usual to recycle words in a different "territory" is implausible, because the same data can be equally well accounted for by the speaker's general preference to redo the repair source alone (71.3 percent, see section 5). There is more compelling evidence presented in the next subsections which argues against syntax conditioning the span of recycling in other syntactic environments.

4.3. *Repair initiation after the subject and before the verb*

In Fox and Jasperson's study, following the subject, repair initiation at the preverbal constituent and at the verb are lumped together in the same category. In this paper I separate them for analysis. This subsection deals with the preverbal repairs first.

This category consists of adverbs (*ye* 'also' in example [27]), modals (*hui* 'will' in example [28]), negatives (*mei* in example [29]), and also conjunctions (*yaoshi* 'if' in example [30]). They total 104 in the present data base, and most of them are repaired alone (n = 66, 63.5 percent).

(27) → L: ... ni ye% --
2.SG also
'You also
→ ... ni ye *bang ta* [*tiaojie*],–
2.SG also help 3.SG adjust
you also help it to adjust.'

(28) → H: ni hui%,–
2.SG will
'You will
→ ... (1.1) ni hui *fanwei a* = ?/
2.SG will vomit PRT
you will vomit.'

(29) → L: ni me- --
2.SG NEG
'You didn't

→ ... [ni mei *pengdao* *a* =].\
2.SG NEG come across PRT
you didn't come across it.'

(30) → O: ni yao --
2.SG if-
'If you

→ ... ni yaoshi *pa nabian*,–
2.SG if lie there
you lied there.'

Besides repeating prior words, as in examples (27) to (29), or finishing up the uncompleted constituent, example (30), there is also replacement, exemplified by the following turn, which substitutes the modal *yinggai* 'should' with *keyi* 'can'. The fact that it does not recycle back to the subject *ta* 'he' is also distinct from the previous four examples.

(31) → L: .. ta jiu yinggai,–
3.SG EMP should
'He should

→ .. jiu keyi *zou* *le*.\
EMP can leave PRT
could leave.'

Given 55 repairs with overt subjects, about half mention them again in the repairing segments (n = 28, 50.9 percent). No syntactic barrier can thus be claimed to exist between the subject and the preverbal constituent. Nor does the repair pattern count. Compare these two groups of repairs: those recycling the subject, and those excluding it. The respective distributions of the "altered" and the "unaltered" patterns are very similar (Table 3).

In fact, the constraint lies rather in the number of words between the subject and the repair source. First, of the fifteen instances having at least one word in between, 86.7 percent (n = 13) do not retrace the

Table 3 *Repair patterning of the preverbal constituent vis-à-vis the subject*

	Recycle subject		Exclude subject	
	n	%	n	%
"altered"	8	28.6	9	33.3
"unaltered"	20	71.4	18	66.7
Total	28	100.0	27	100.0

subject. When they are not repaired alone, the recycling tends to go back only to the word immediately prior to the repair source, thus omitting the subject, even where it is as simple as a monosyllabic pronoun, like *ta* 'he' in example (31). On the other hand, the subject is more likely to be brought up again if there is no intervening constituent, as borne out by the data. Of forty repairs of this type, the majority (n = 26, 65 percent) include the subjects in the resulting utterances.

The retraced subjects are largely pronominal in form, just like those in examples (27) to (30). As to the remaining fourteen instances that exclude the overt subjects, four are expressed in complex NP form, such as *women na ge dongxi* 'our thing' in example (32). Another constraint in terms of lexical-form complexity is emerging: the more complex in form a word is, the less likely it will be recycled. More evidence will be provided in the next subsections.

(32) → Y: ... (1.1) *jiu* women na ge dongxi shi% --
PRT 1.PL that CL thing EMP
'Our thing
→ .. shi *tai* --
EMP too
too
... *tai jiandan le la.*\
too be.simple PRT PRT
is too simple.'

Concerning the group of repairs accompanied by pre-subject words, such as *ranhou* 'then' in example (33), 78.6 percent (n = 22) of the 28 repairs that leave them out in the repairing segments have at least one intervening word of another category. Since the speaker prefers to back up merely one word, i.e., *daochu* 'everywhere' in (33), the conjunction is thus absent in the recycling. Whether the repair pattern also constrains recycling is not clear, because only two instances are found which recycle the pre-subject words with other intervening items.

(33) → Y: ... (1.6) ranhou daochu dou% --
then everywhere all
'Then all everywhere
→ .. daochu dou *you* <L2 *park* L2> *de*,–
everywhere all have park PRT
it has parks all everywhere.'

To sum up, it is not a matter of syntax or repair patterning that manages how far a recycling goes. Chinese speakers prefer retracing only one word prior to the speech interruption, irrespective of its syntactic

status. Table 4 shows the extent of recycling in the entire data base and its relationship with the quantity of words preceding the repair source. Obviously, redoing only the interrupted constituent is most common (n = 66, 63.5 percent), followed by recycling one prior word (n = 34, 32.7 percent). However, if the word in question is complex in form, the recycling tends to be blocked.

4.4. *Repair initiation during the production of the verb*

After the preverbal position, the next major site of repair initiation is the verb. In the first example, the verb *qu* 'go' is repeated alone; in the second turn, the unfinished compound *xianzhemeishi* 'be free and have nothing to do' is completed; in the last example, the verb *hui* 'return' is replaced by *dao* 'go' and the adverbial *you* 'again' is added.

(34) → Y: ... *ruguoshuo nimen* qu =,–
if 2.PL go
'If you go
→ ... qu *nali dehua.*\
go there if
go there,'

(35) → W: ... (2.5) *ta jiu..*xian%--
3.SG then
'She then
→ ... xianzhemeishi.\
be.free and have nothing to do
was free and had nothing to do.'

Table 4 *Recycling of the preverbal constituent*

	No prior word		One prior word		Two prior words		Three prior words		Four prior words	
	n	%	n	%	n	%	n	%	n	%
Redo repair source	27	100.0	28	45.9	6	60.0	5	100.0	0	0.0
Redo repair source plus one prior word	0	0.0	33	54.1	0	0.0	0	0.0	1	100.0
Redo repair source plus two prior words	0	0.0	0	0.0	4	40.0	0	0.0	0	0.0
Total	27	100.0	61	100.0	10	100.0	5	100.0	1	100.0

(36) L: [[[*ta*% *ta*%]]],–
3.SG 3.SG
'He
→ .. hui% --
return
returned
→ .. you dao *M93* [*zheyangzi*]?/
again go M93 like this
went to M93 again.'

A totality of 77 repairs are initiated in this environment, and only 58.4 percent (n = 45) are simply redone. In other words, recycling is common during the construction of the verb. The question is whether the quantity constraint proposed above is also borne out here. First, consider the preverbal modifiers. Given 37 cases accompanied by at least one preverbal word, as many as 48.7 percent (n = 18) of the recycles include them in the outcome. Again, a syntactic barrier between these two kinds of categories is not in evidence. Neither does the repair pattern play a role, since the distribution of the "altered" and the "unaltered" patterns is similar in both the group that recycles preverbal words and the group not retracing them: see Table 5.

The extent of the recycling of preverbal words also largely conforms to the quantity constraint. The overwhelming majority (17 out of 18) behave like the example below, where among the three preverbal elements in series only the last negative, *bu*, is retraced with the verb *yuanyi* 'be willing'.

(37) → Z: ... (.7) zheyang jiu bu ˆyuanyi = ,–
like this EMP NEG be.willing
'You are not willing
→ ...bu yuanyi *chazui.*\
NEG be.willing break into the conversation
not willing to break into the conversation.'

Table 5 *Repair patterning of the verb vis-à-vis the preverbal word*

	Recycle the preverbal		Exclude the preverbal	
	n	%	n	%
"altered"	9	50.0	9	47.4
"unaltered"	9	50.0	10	52.6
Total	18	100.0	19	100.0

A syntactic barrier between the verb and the subject does not hold, either. Of the 47 repairs accompanied by overt subjects, the subject appears again in the outcome in 36.2 percent (n = 17) like *women* 'we' in example (38). The repair pattern also does not play a part in determining subject retracing, as a similar proportion of the "altered" and the "unaltered" pattern is found whether the subject is recycled or not: see Table 6.

(38) → L: .. women deng% --
1.PL REPAIR
'We
→ .. [women] liaotian.\
1.PL chat
we chat.'

It is the same quantity constraint that is operating here. Of twenty instances that include at least one intervening word between the subject and the verb, 85 percent (n = 17) do not cross over the subject boundary. Unlike example (38), the subject (*fangzi* 'room') in the next example is absent in the recycle, because it is not the word immediately prior to the verb. Instead, the degree adverb *hen* 'very' is retraced under the quantity constraint.

(39) → Y: .. *bushi* fangzi hen = sh- --
NEG room very be.wet
'Isn't that the room is very wet
→ ... hen [chao =] *ma*?/
very be.wet QST
very wet?'

However, if the subject is a complex NP, such as *DC de na ge zoo* 'the zoo in DC' example (40), recycling is blocked, even without any intervening preverbal word. The lexical-form constraint is further evidenced.

Table 6 *Repair patterning of the verb vis-à-vis the subject*

	Recycle subject		Exclude subject	
	n	%	n	%
"altered"	11	64.7	16	53.3
"unaltered"	6	35.3	14	46.7
Total	17	100.0	30	100.0

(40) → Y: ... <L2 DC L2> de na ge =,–
DC ASSC that CL
'DC's
→ ... <L2^ zoo L2> you,–
zoo have
zoo has
→ ... you <L2 *panda* L2> *a*,–
have panda PRT
has pandas.'

Finally, the quantity constraint can explain the absence of pre-subject words in the outcome. For the seventeen instances in which this category of words is absent from the recycle, the overwhelming majority (n = 15, 88.2 percent) have more than one word of another category in between. The following example indicates that even the subject, *tamen riwen* 'their Japanese', does not occur again, let alone the conjunction *yinwei* 'because'.[6]

(41) → Z: ... yinwei tamen riwen qian --
because 3.PL Japanese be.strong
'It is because their Japanese is very good,
→ ^qiang *a* =.\
be.strong PRT
is very good.'

Table 7 summarizes the extent of recycling with respect to the verb and its relationship to the quantity of previous words. Despite the fact that redoing the verb alone still occurs in the majority of cases (n = 45, 58.4 percent), recycling one further preceding word, preferably simple in form, is also common (n = 28, 36.4 percent).

Table 7 *Recycling of the verb*

	No prior word		One prior word		Two prior words		Three prior words	
	n	%	n	%	n	%	n	%
Redo repair source	13	100.0	17	47.2	12	57.1	3	42.9
Redo repair source plus one prior word	0	0.0	19	52.8	5	23.8	4	57.1
Redo repair source plus two prior words	0	0.0	0	0.0	4	19.0	0	0.0
Total	13	100.0	36	100.0	21	100.0	7	100.0

According to Fox and Jasperson, English has syntactic constraint in turn beginnings: repair initiation occurs either at the preverbal elements after the subject, or during the production of the verb, or even after the verb but prior to a required object noun or locative phrase; recycling always goes back to a (finite) clause beginning. The examples from Chinese do not always bear out this constraint in terms of turn organization (see examples [31] and [32], [34] to [36], and [39] to [41]). The issue will be taken up again in section 5.

4.5. *Repair initiation during the production of the direct object*

Another major type of repair initiation occurs during the production of the direct object after the verb, such as the proper name *yanzaiming* in example (42), the unfinished *hen duo butongde style* 'many different styles' in (43), and the replaced *ji di* 'a few drops' in (44). These examples recycle the verbs without violating the quantity constraint.[7] Again, Chinese and English differ, in that "[English] speakers either recycle to the beginning of the direct object noun phrase or to the beginning of a finite clause, but not back to the verb" (Fox and Jasperson, to appear). Since a similar phenomenon is also found in the postverbal prepositional phrases, Fox and Jasperson claim that the "verb phrase" in English is not employed as a recycling constituent. Is this a language-specific constraint? This question is discussed in section 5.

(42) W: ... (1.3) jiao yanzaiming *ta*% --
ask Yanzaiming 3.SG
'I asked Yanzaiming
→ ... jiao yanzaiming *yong ta de mingzi xie* =,–
ask Yanzaiming use 3.SG ASSC name write
asked Yanzaiming to use his name to write to him.'

(43) L: ... (1.1) <*A erqie ta ziji bensheng de*
also 3.SG SELF SELF ASSC
zi = *A*>,–
writing
'Also, his own writing
→ .. *bensheng ˆjiu* you hen% --
SELF EMP have very
has very
→ ... (.7) you hen duo ˆbutongde <L2 style L2>.\
have very much different style
has many different styles.'

(44) → H: ... (1.1) *eh wo zhe hai* cha yi di --
PRT 1.SG this still remain one drop
'I still have one drop of beer remaining
→ *uh* cha ji di *e*=.\
PRT remain a few drop PRT
a few drops remaining.'

Although 66.7 percent (n = 16) of the total of 24 repairs redo the direct object alone, as is the case with the uncompleted direct object *gongcheng-shi* 'engineer' below, there is still a substantial portion that recycle the preceding verb, just like those in examples [42] to [44]. This denies the possibility of a syntactic barrier between the verb and the direct object. Moreover, as indicated in Table 8, the repair pattern does not play a role, since completion predominates at this site, whether the verb is recycled or not.

(45) L: .. *ta yinggai*% --
3.SG should
'He should
→ ... *bu yinggai sheng* gongchen- --
NEG should promote engineer
should not be promoted
→ .. gongchengshi *name kuai de*.\
engineer so quick PRT
engineer so quickly.'

Finally, the fact that the pre-subject word, the subject, and even the preverbal word, if there is any, are usually left out in the repairing segment is dependent on the quantity constraint. It is always the verb that is retraced first. Table 9 shows the recycling of all the 24 repairs at this site. Again, the redoing of the direct object alone predominates (n = 16, 66.7 percent), followed by the one-prior-word recycling (n = 6, 25 percent).

Table 8 *Repair patterning of the direct object vis-à-vis the verb*

	Recycle verb		Exclude verb	
	n	%	n	%
Completion	13	81.3	5	62.5
Noncompletion	3	18.8	3	37.5
Total	16	100.0	8	100.0

Table 9 *Recycling of the direct object*

	One prior word		Two prior words		Three prior words		Four prior words		Five prior words	
	n	%	n	%	n	%	n	%	n	%
Redo repair source	2	40.0	1	33.3	8	88.9	5	83.3	0	0.0
Redo repair source plus one prior word	3	60.0	0	0.0	1	11.1	1	16.7	1	100.0
Redo repair source plus two prior words	0	0.0	2	66.7	0	0.0	0	0.0	0	0.0
Total	5	100.0	3	100.0	9	100.0	6	100.0	1	100.0

4.6. *Repair initiation during the production of a prepositional phrase*

The data include only 21 repairs initiated at the prepositional phrase under construction, of which only two occur postverbally, as shown below. Both leave out the verbs in the recycles: alone the preposition *qu* 'to' is repeated in example (46); *dao* 'to' is not retraced during the replacement of the following nominal with *xueyi* 'blood' in (47). Because of the scarcity of this type of repair, the extent of recycling it exhibits must await future research.

(46) → Z: .. *wo* *jiu* dadianhua qu% --
1.SG then call to
'I then called
→ ... ˆqu na[bian],–
to there
there.'

(47) H: *nage*%,–
that
'That
→ ... shen dao jiuy- --
penetrate to REPAIR
penetrates
→ .. xue = yi *limian*,–
blood inside
into the blood.'

As to the preverbal prepositional phrases,[8] six are interrupted at the preposition, such as *xiang* 'like' in the first of the next two examples, and thirteen at the nominal, like *ribenren* 'Japanese' in the second example.

(48) → W: ... ˆxiang,–
like
'Like
→ ... [ˆxiang] *yangjingli*,–
like manager Yang
like manager Yang,
... *ta* *yiding shi* =,–
3.SG must EMP
he must
... *mei* *youbawo*.\
NEG be.sure
be not sure.'

(49) L: ... (1.) *keshi*?/
but
'But
→ .. zai ribenren.\
at Japanese
at Japanese
→ ... riben *de* *xitong zhixia*.\
Japan ASSC system under
under the system of Japan,'

Finally, the quantity constraint is also seen to play a role in these data. For instance, the repairing segment in (50) includes the subject *women* 'we' which is the first word prior to the preposition *cong* 'from'.

(50) → L: ... (1.3) women cong = ?/
1.PL from
'We from
→ ... [women] cong *shenme shihou kaishi he* *a* = ?/
1.PL from what time start drink QST
from what time did we start to drink?'

4.7. *Repair initiation in subordination*

Different from Fox and Jasperson, the present study distinguishes main clauses, as discussed in section 4.1–4.6, from embedded clauses. Repairs in subordination can be exemplified by the embedded subject *chezi* 'car' in the following turn.

(51) → W: ... (.9) *ta* *shuo* chezi% --
3.SG say car
'He said that the car

→ ... [chezi] *zhengge dou huaidiao le.*\
car whole all be.broken PRF
the car was completely broken.'

Only 11.8 percent (n = 54) of the 458 repairs are found to be initiated within embedded clauses (52), complement clauses (53), or serial-verb clauses (54).[9] Despite the relatively low frequency, the repair pattern and the constraints largely conform to those found in main clauses. As displayed by the succession of repairs in example (52), only the repair sources at *mei*, *bijiao*, *feichang*, and *jiaoyi* are redone; on the other hand, the subject *meiguo* 'America' is excluded when the preverbal adverbs, *bijiao* 'comparatively' and *feichang* 'very', are redone, as it is not the word immediately prior to them.

(52) → Y: ... *wo juede* mei% --
1.SG think REPAIR
'I think
→ ... (1.1) meiguo [*tongchang* <MRC ^bijiao MRC>].\
America generally comparatively
America generally, comparatively
→ ... ^bijiao.\
comparatively
comparatively
→ ... <MRC ^feichang feichang MRC> *yilai*?/
very very rely on
relies a lot on
→ .. jiaoyi% --
REPAIR
→ ... jiancha *de jieguo*.\
examine ASSC result
the result of examination.'
(53) → H: *ni* = *zhang de* hai% --
2.SG grow COMPL moderately
'You look moderately
→ .. hai,–
moderately
moderately
..^*kandeguoqu* = ,–
look.okay
okay.'
(54) Z: ... (.9) *wo* = ?/
1.SG
'I

→ ... *zhaobudao..changhe* keyi%,–
NEG.find occasion can
cannot find an occasion where I can
→ .. keyi *dai* [*de*].\
can wear PRT
can wear them.'

Finally, the fact that 90.7 percent (n = 49) of cases do not cross the clause boundary to retrace constituents in the main clause can also be explained by the quantity constraint. However, more data are needed to obtain a complete profile of recycling in subordination.

5. Discussion

Fox and Jasperson have noted that "repair does not distort normal sequential syntactic patterns ... [otherwise] recipients would have few reliable cues to make use of in determining the role of the repairing segment with regard to the preceding utterance ...." Thus, in example (55), after the subject *ta* 'he' and the emphatic *shi* become embedded elements as a result of the addition of the verb *tingshuo* 'hear', they must be uttered again in the recycle, because they are indispensable to the later construction.

(55) → W: ... *buguo* ta shi,–
but 3.SG EMP
'But he
→ ... tingshuo ta shi *you shaowei*,–
hear 3.SG EMP PRF quite
it is heard that he quite
... (.7) *liuyi yixia*.\
notice a bit
noticed that a bit.'

Although repair is accomplished within the syntactic environment, the way it is carried out might not be conditioned by syntax, as the findings in the present study suggest. Firstly, the speaker can choose to manage the repair source either alone or together with some other words. Of the total 282 repairs initiated at the major syntactic sites of the main clause following the pre-subject, Chinese speakers exhibit a preference to repair them on their own, with a mean of 71.3 percent (n = 201). However, it is intriguing that speech interruption at the subject exhibits a much higher percentage of repair of the word alone (96 percent) than at other syntactic

sites (63.5 percent for the preverbal constituent, 58.4 percent for the verb, 66.7 percent for the direct object). Are pre-subject words always unlikely to be recycled, as claimed by some scholars (and discussed by Fox and Jasperson)? This article does not have a ready answer for that, since more than half of the repaired subjects are found to lack any pre-subject elements (57.3 percent, i.e., 43 out of 75), especially compared to the much lower percentage of preverbal repairs (27 out of 104, 26 percent) and of repairs to the verb (13 out of 77, 16.9 percent) where these elements have no words prior to them. The direct object always co-occurs with at least the verb. In short, more data are needed to answer the question.

When the repair source is not redone alone, what determines how far back the recycling goes? The results evidence that the extent of recycling is conditioned by neither syntax nor the repair pattern; there is no restriction compelling any particular syntactic constituent or repair pattern to be (or to not be) recycled obligatorily together with other constituents in any repair environment. The constraints lie rather in quantity and lexical-form complexity. On the one hand, repairs tend to recycle only the word immediately prior to the repair source, regardless of its category; on the other hand, if the preceding word is in complex NP form, the recycling tends to be blocked. Quantity appears to be more primary than lexical-form complexity. Finally, they are significant given the desire of the speaker to resume the conversation as soon as possible and to keep it going.

In English, besides the crucial factor of timing, Fox and Jasperson (to appear) propose a syntactic constraint on the extent of recycling:

> The verb is not used as the beginning of a repairing segment if repair is initiated in a post-verbal phrase ... [and] the verb-NP or verb-PP bond is not very great; it certainly suggests that the category of Verb Phrase may not have much cognitive-interactional significance for conversationalists, at least with regard to repair.

Such constraint is not evident in Chinese. The statistics in subsection 4.5 show that one third of repairs initiated at the direct object include the verb in the outcome, implying that the "verb phrase" as a recycling constituent is not problematic in Chinese.

Moreover, the extent of an English recycle further depends on whether the repair is initiated at the beginning of a turn. Their finding is that

> in turn beginnings, if repair is initiated after an auxiliary or main verb, the verb and its subject are always recycled together; the verb is never recycled by itself in turn beginnings. Outside of turn beginnings, however, verbs are sometimes recycled by themselves, without their subjects.

Chinese does not make such a distinction, either. Even when the subject is overt in the utterance, a substantial proportion of repairs are still initiated at the preverbal site or at the verb without recycling back to it (with a mean of 55.9 percent, see subsections 4.3 and 4.4). Together with those lacking an explicit subject, the proportion of the verb/auxiliary-only recycles in turn beginnings is as high as 75.1 percent. Furthermore, Fox and Jasperson mention in their paper that "Japanese speakers do not engage in turn-beginning recycling to the extent that English speakers do". The similarity between Chinese and Japanese in this particular aspect seems to support their hypothesis about the different syntactic organizations of different languages, in that both Chinese and Japanese have a flexible syntactic form at turn beginnings, as distinct from the fixed form in English. However, whether the subject has to be recycled or not can equally be taken to be a matter of speech preference among different speech communities. Similarly, the quantity and lexical-form constraints on self-repair organization in Chinese conversation also represent another aspect of the speech preference of the Chinese speaker, suggesting how conversational Chinese is structured in speech interruption. This intriguing issue involving the interaction of grammar and discourse, although beyond the scope of the present paper, is worth being pursued with more data in the future.

6. Conclusion

The findings of this study not only provide evidence for the quantity and lexical-form constraints on the management of Chinese self-repair, they further suggest a facet of conversational Chinese based mainly on the preferences of the speech community.

Due to the rarity of certain types of clauses and repair patterns, more data are needed to be able to obtain a complete understanding of this pervasive phenomenon in speech.

Appendix A: Abbreviations in the interlinear glosses

1.PL	first person plural
1.SG	first person singular
2.PL	second person plural
2.SG	second person singular
3.PL	third person plural
3.SG	third person singular
ASSC	associative morpheme

CL	classifier
COMPL	complementizer
COP	copula verb
EMP	emphatic adverbial
EXP	experiential aspect
NEG	negative morpheme
PRF	perfective aspect
PROG	progressive aspect
PRT	discourse particle
QST	question particle
REPAIR	repair phoneme(s)
SELF	morpheme "self"

Appendix B: Transcription conventions

Units

{carriage return}	intonation unit
--	truncated intonation unit
{space}	word
-	truncated word

Speakers

:	speaker identity/turn start
[ ]	speech overlap

Transitional continuity

.	final
,	continuing
?	appeal

Terminal pitch direction

\	fall
/	rise
–	level

Accent and lengthening

ˆ	primary accent
=	lengthening

Pause

...(N)	long
...	medium
..	short
(0)	latching

Vocal noises

(H)	inhalation
%	glottal stop
@	laughter

Quality

<@ @>	laugh quality
<Q Q>	quotation quality
<F F>	fast tempo
<PP PP>	very soft
<MRC MRC>	each word distinct and emphasized

Specialized notations

<L2 L2>	code switching from Mandarin to English
<L3 L3>	code switching from Mandarin to Japanese
(( ))	transcriber's comment

Notes

* I am grateful to Barbara Fox for her valuable comments and encouragement. An earlier version of this paper was presented at the Second International Symposium on Languages in Taiwan in June 1995.

1. The spoken data were transcribed according to the transcription system proposed by Du Bois et al. (1992). Relevant expressions in examples are in roman type; the lines where the expressions appear are marked by an arrow (→).
2. Repairs of this type are mostly accomplished after one different turn, probably in order to recast the speech as soon as possible.
3. The "editing terms" after repair initiation, such as *uh* or *um*, will not be considered here, since they are "a filler without semantic value in relation to the sentence under construction, and without function as a discourse marker ... other than possibly indicating that the speaker wishe[s] to continue speaking" (Blackmer and Mitton 1991: 182).
4. The terms "subject" and "direct object", though controversial in Chinese, are used in this study for the convenience of discussion. In this paper, "subject" refers to the

prototypical agent of a transitive verb and the only argument of an intransitive verb, and "direct object" to the prototypical patient of a transitive verb.

5. Repair initiation at certain syntactic sites, such as the clause-initial object position, is too scarce to say much about recycling.
6. Owing to the rarity of the repair group recycling pre-subject words, determining whether the repair pattern plays a role in this syntactic environment needs further research.
7. The following is the only instance in which the repairing segment includes not only the verb *you* 'have', but also the preverbal negative *mei*. However, if *mei-you* is taken as a verb, as it is by some linguists, there is no exception to the quantity constraint in this particular environment.

(i) → Y: ... mei you hen% --
→ NEG have very
'It does not have a very
→ ... mei you hen <P *shenhou de yi duan dizhu la* P>,-
NEG have very deep ASSC one CL foundation PRT
does not have a very deep foundation.'

8. All 19 repairs of this type are also analyzed as preverbal elements in subsection 4.3.
9. Here, the first verb in a serial-verb construction is regarded as the structural main verb.

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Kawai Chui finished her Ph.D. dissertation entitled "Information Flow in Mandarin Chinese Discourse" in 1994. She is now an associate professor at the National Chengchi University, Taipei. Her research interests include discourse analysis, semantics, and functional syntax.