D-4   The semantic meaning and function of the Chinese adverb '[就] *jiu*'
---a research in disjunctive conjunction sentences---

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Abstract

Chinese adverb '[就] *jiu*' has different meanings in respect of the relative position between *jiu* and the focus. In my research, I focus on sentence when focus appears in front of *jiu* (namely *jiu1*). I will provide hitherto unnoticed data to show that when *jiu* appears in a disjunctive conjunction sentence, the sentence will have an inclusive construal of *or*. I introduce scalar implicature theory from Chierchia, Fox, Spector (2013), assuming that *jiu1* always appears with an exhaustification operator and a necessity operator obligatorily. I assume sentences like 'ta xingqisan huo xingqisi *jiu1* lai xuexiao (On Wednesday or Thursday (*jiu1*) he come to school)' has the logic form $O_{ALT}(\Box(O_{ALT}(\text{Wednesday or Thursday}) \text{ or } (\text{Wednesday and Thursday})))$.

1. Introduction

Jiu has different meanings in respect of the relative position between *jiu* and the focus

(1)   **Yuhan** jiu hui shuo fayu.   jiu1: focus … jiu1

       John   *jiu1*   can   speak   French

       'John, who is easy to get hold of, can speak French.'

(2)   Jiu   **Yuhan** hui shuo fayu.   jiu2: jiu2 … focus

       Jiu2   John   can   speak   French

       'Only John can speak French.'

(1)   a scalar meaning, or an anti-exhaustive meaning

(2)   an exclusive meaning similar to English *only*

But in Chinese there is *only* [只]'zhi' which is equal to English *only*.

(3)   ta   zhi   zai   qingqitian qu   gongyuan   fujinde   kafeidian.

       he   only   at   Sunday   go   park   near-DE   cafe

       'He only at Sunday go to the cafe neat the park'

Aim: the meaning and function of jiu1

2. Previous Research

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2.1. Biq (1988) :

parametric jiu (jiu1)

  (4) Zhangsan   mingtian   jiu   zou

      Zhangsan   tomorrow   jiu1   leave

      'Zhangsan will leave (as soon as) tomorrow.'

⇒The focus being the PARAMETER for obtaining the actuation of the event denoted in the sentence.

jiu1: make a predicate 'Zhangsan leaves at x'. The focus 'tomorrow' is the parameter.

2.2. Tsai (2017)

jiu1 is a marker of ONLY HAVE-TO

⇒ *jiu*'s presence indicates the sentence contains the ONLY HAVE-TO operator attaching to the focus phrase.

  (5)   a. [Liangge$_F$laoshi]   jiu   ba naxie   xiaohai   kongzhi-zhule.

            two   teacher jiu1   ba those   children   control-holdasp

       'Two teachers (sufficed to have) held controlled over those kids.'

        b. [**ONLY HAVE-TO** [two$_F$ teachers]] [held controlled over those kids]

        c. *NEC*x [x held control over those kids] [**ONLY HAVE-TO** [x = two$_F$ teachers]]

                     restriction   nuclear scope

(5a) has the LF in (5b), and basic conditional semantics in (5c)

A conditional meaning:

(6)   If the individual(s) x held control over those kids, x only had to be two teachers.

2.3. Liu (2017): *jiu* as weak *only*

ONLY$_{weak}$

(7)

$\llbracket \text{ONLY}_{weak}(\pi) \rrbracket$ is true iff $\forall q \in C[q \subset \pi \rightarrow \neg q]$
Alternatives asymmetrically entailing the prejacent are false.

3. Characteristics of jiu1

3.1. Hole（2004） [只要]*Zhiyao* 'only need' conditionals

(8) [If…, then…] conditionals   → **jiu is optional**

(9) ruguo ni   kan-jian le   shei, (jiu) jiao ta   lai   jian wo

    if   you   see   ASP   who   then   tell   him/her   come   see   me

    'If you see someone, then tell him/her to come see me'

                                     (Cheng and Huang 1996)

(10) zhiyao   ni   yonggong,   ni   *(jiu)   hui   chenggong.

only-need   you   hard-working   you   JIU   will   succeed

'If you WORK HARD, you will make it.'/'You only have to WORK HARD to make it'

(Hole 2004)

I assume that, when *jiu1* appears the sentence always have the meaning *zhiyao* 'only need'.

(11) ta (zhiyao) **xingqisan**   **huo xingqisi** jiu   lai   xuexiao.

he only-need Wednesday   or   Thursday jiu1   come   school.

'On Wednesday or Thursday he come to school.

⇒ Invisible *zhiyao* 'only-need' in front of   *Wednesday or Thursday*

3.2. *Jiu1* always appear in context

Answering a Wh-question

(12) Q : On what day of the week do you come to school ?

A: wo   `xingqi-san   jiu   lai   xuexiao?

I   Wednesday jiu1   come   school

'I come to school at Wednesday (which day is easy to get hold of).'

Presupposition: I come to school at x.

3.3. jiu1 is related to the speaker attitude

yexu 'perhaps' → the attitude of the speaker

(13) a. * `ta jiu   yexu   zai yiyuan

he jiu1   perhaps   at   hospital

Intended: 'He (who is easy to get hold of) perhaps at hospital.'

b. `ta yexu   jiu   zai yiyuan

he perhaps jiu1   at   hospital

'He (who is easy to get hold of) perhaps at hospital.'

Summary of section 2 and 3

(14) Jiu1 is a marker of only-need

(15) a. wo   `xingqi-san   jiu   lai   xuexiao?

I   Wednesday   jiu1   come   school

'On Wednesday I come to school.'

b. (I come to school on x), (x need to be Wednesday)

4. Analysis

4.1. Chierchia, Fox, Spector (2013)

(16)   Joe or Bill will show up.

     $\Rightarrow$ Joe or Bill and not both will show up.

(17) B_s (O_{ALT}(show up(j) $\lor$ show up (b)))

    = B_s(((show up (j) $\lor$ show up (b)) $\land$ $\neg$((show up(j) $\land$ show up(b))))

(18) $\| O_{ALT}(S)\|^w = 1$ iff $\|S\|^w = 1$ and $\forall \varphi \in$ ALT $(\varphi(w) = 1 \rightarrow \|S\| \subseteq \varphi)$

(19) ALT(x or Y) = { x or y, x, y, x and y }

$\Rightarrow$ O_{ALT}(S) expresses the conjunction of S and of the negations of all the members of ALT that are not entailed by S. Equivalently, it states that the only members of ALT that are true are those entailed by S.

(20) A: We are required to either read Ulysses or Madame Bovary.

    B: ## No! We are not allowed to read both.

(21) A: We are required to either read Ulysses or Madame Bovary or Both.

    B: No! We are not allowed to read both.

For (20)

(22)   ALT ((20)) = {$\square$(U or MB), $\square$U, $\square$MB, $\square$(U and MB)}

(23) O_{ALT} ((20)) = $O_{ALT}\square$(U or MB) = $\square$(U or MB) $\land$ $\neg\square$U $\land$ $\neg\square$MB

(24)   a. We are required to either read *U* or *MB* and we are not required to read *U* and we are not required to read *MB*.

    b. We are required to either read *U* or *MB*, we are allowed not to read *U* and we are allowed not to read *MB*.

    c. We are required to either read *U* or *MB*, and we are allowed to read either one without reading the other.

For (21)

(25) We are required to either read Ulysses or Madame Bovary or both.

    $\Rightarrow$ O_{ALT}($\square$[O_{ALT}(U or MB) or (U and MB)])

The embedded **exhaustivity operator** is forced by HC and the matrix one exhaustifies the entire sentence.

(26)   Hurford's constraint (HC): A sentence that contains a disjunctive phrase of the form *S or S'* is infelicitous if *S* entails *S'* or *S'* entails *S*.

(27)   # Mary saw an animal or a dog.

(25) is predicted to implicate the following:

(28) a. ¬□(O$_{ALT}$(U or MB))

   b. ¬□(U and MB)

(29) a. □(U and MB) ∧ ¬□(O$_{ALT}$(U or MB)) ∧ ¬□(U and MB)

   b. We are required to read U or MB, we are not required to read only one of the two novels, we are not required to read both.

   c. We are required to read U or MB, and we are allowed to read both of them and we are allowed to read only one of them.

4.2. Chinese adverb *jiu1*

(30) ta **xingqisan** **huo xingqisi** lai xuexiao.

   he Wednesday or Thursday come school.

   'He come to school either on Wednesday or on Thursday.'

(31) O$_{ALT}$(W or T)

   = He come to school either on Wednesday or on Thursday and not both days.

(32) ta (zhiyao) **xingqisan** **huo xingqisi** jiu lai xuexiao.

   he only-need Wednesday or Thursday jiu1 come school.

   'On Wednesday or Thursday he come to school.

(33) O$_{ALT}$(□(O$_{ALT}$(W or T) or (W and T)))

   need only   implicate: ¬□(O$_{ALT}$(W or T)) ∧ ¬□(W and T)

    jiu1

(32) is the answer for (34)

(34) On what day of the week does he come to school ?

(35) (He come to school at x), (x need to be *W* or *T*)

(36) ….. (zhiyao) **xingqisan** **huo** **xingqisi** jiu1 ….

     only-need Wednesday or Thursday jiu

⟹ O$_{ALT}$(W or T) or (W and T)

matrix O$_{ALT}$ exhaustifies the entire sentence

(37) a. $\Box$(U and MB) $\wedge$ $\neg\Box$(O$_{ALT}$(W or T)) $\wedge$ $\neg\Box$(W and T)

    b. x need to be W or T, x does not need to be only one of the two days, x does not need to be both days.

    c. x need to be W or T, x is allowed to be the two days, x is allowed to be only one of the two days.

5. Further research

(38) a. More data of jiu1

    b. What is the function of jiu2

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