

REVIEW:

*FOCUS AND SCALES: AN EXPERIMENTAL STUDY OF L1
ACQUISITION OF CAI AND JIU IN MANDARIN CHINESE.* BY XIAOLU YANG.
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ABSTRACT

This paper reviews Xiaolu Yang's book, which empirically investigated Mandarin L1 children's acquisition of two focus adverbs: *cai* and *jiu* 'just'. Her first two chapters review semantic, pragmatic and acquisition literature on focus adverbs. Based on four semantic and pragmatic dimensions of these two particles: namely time, quantity, conditional, and restrictive domains, Yang designed six main experiments and the results largely supported her hypotheses: *jiu* being acquired earlier than *cai*. Yang's hypotheses are well grounded and her designs are original and empirically verifiable. Since the conditional domain of *cai* and *jiu* is more complex than their time/quantity domains, the former was acquired later. Moreover, the restrictive domain of *cai* and *jiu* showed different patterns from those in other domains. In addition to reviewing her experiments and results, we further suggest a development order for acquisition of association with focus, which may provide a natural motivation for Yang's *subset principle* account.

SUBJECT KEYWORDS

Focus adverb *Jiu*, *Cai* Association with focus Scalar implicatures Focus acquisition

1. INTRODUCTION

Yang's book written in English is based on her 1998 Ph.D. dissertation from Chinese University of Hong Kong. It investigates Mandarin-speaking children's acquisition of two scalar focus particles: CAI and JIU 'then, only, just', based on her two large sets of experiments, the first one containing four tasks and the second one containing two tasks. It is preceded by a preface (16 pages) by her advisor, Professor Thomas Lee, consisting of three sections in Chinese (i) a concise preview of the syntax-semantics basis and the rationales of her experiments, (ii) a brief overview of the development of L1 acquisition in general, and (iii) an overview of pioneering works on L1 acquisition of Mandarin Chinese by Chinese scholars. Lee concludes by highlighting the significant contributions of Yang's experiments with respect to the originality of her designs, experiment validity, and convincing results that shed light on our understanding of Mandarin children's acquisition of these two particles. The preface and the following introduction written in Chinese by Yang are quite accessible for Chinese readers who would like to familiarize themselves with the general issues in L1 acquisition and who want to obtain a quick preview of the present study.

Yang's book (284 pages written in English) is mainly divided into six chapters. The introduction chapter first briefly summarizes the focus semantics of *only* and *even* in English. Chapter 2 then discusses the semantics and pragmatics of the two focus particles explored in this study, i.e. CAI and JIU, with respect to four domains: time, quantity, conditional, and restrictive meanings. It is then followed by the discussion of the rationales and research hypotheses in Chapter 3. Chapter 4 investigates the acquisition of CAI and JIU in the first three domains, and Chapter 5 explores the acquisition of the restrictive focus of CAI and JIU. The general discussion and conclusion are given in Chapter 6. Finally, the rest of the book contains the bibliography and appendices for the test items, as well as a Chinese epilog by the author herself. In the epilog, she compares this book and the related papers she has presented or published in the past few years, stressing the fact that the book illustrates the theoretical frameworks and the rationales for the experimental designs more thoroughly than those papers.

Without getting into the details for the time being, we first present the findings of this study and then our overall evaluation. First of all, with the six tasks designed to answer how the two particles are acquired and to explain how the acquisition of

the two particles means to the acquisition of focus and scales in general, the findings of this study are fruitful. They confirm the hypothesis that JIU is acquired earlier than CAI due to its relatively unmarked nature. They also show that the understanding of conditional CAI/JIU is different from that of time or quantity CAI/JIU in acquisition assuming the former is semantically and pragmatically more complicated than the latter. Moreover, the study of restrictive focus shows that the scope of restrictive focus is problematic to Mandarin-speaking children. Furthermore, the semantic subset principle is claimed to be at work for Mandarin-speaking children in their acquisition of restrictive focus as evidenced by the fact that children tended to focus on the predicate.

It is no doubt that, Yang's study, as comprehensive as it is, contributes to our understanding of the L1 acquisition of these two particles and the acquisition of focus and scales in general. It deserves the full credit for taking on the challenge that we surmise that few would like to see themselves in due to the complexity of these two markers. With her ingenious experimental designs and the inspiring and reliable findings, we are closer to answer the questions related to the core issues that the two markers raise. This book thus marks a milestone for Chinese L1 acquisition and is a must read for anyone who is interested in the acquisition of CAI and JIU in particular and that of focus and scales in general.

Despite her efforts and achievements, this book is not free from limitations. In Section 2 of this review, we will first present our comments on the analyses of the two markers that she relies on. Section 3 discusses Yang's rationales and research hypotheses. Section 4 reflects on her first set of experiments. The discussion of the second set of her experiments, the test of restrictive focus, is given in Section 5. Finally, a conclusion is given in Section 6.

2. ON THE ANALYSES OF *CAI* AND *JIU*

As mentioned above, Yang's study aims to explore how children understand focus and scales by investigating Mandarin-speaking children's learning of the two focus particles CAI and JIU. Based on the pioneering semantic/pragmatic studies by Paris (1981), Biq (1984) and Lai (1995), Yang in Chapter 2 reviews the use of CAI and JIU in four domains—time, quantity, condition and restriction, depending on the environments they occur. They are exemplified respectively from (1) through (4).

- (1) a. Lisi san dian cai lai.¹ (time domain)
 Lisi three o'clock CAI come
 'Lisi came as late as three o'clock.'
 b. Lisi san dian jiu lai le.
 Lisi three o'clock JIU come PART
 'Lisi came here as early as three o'clock.'
- (2) a. Ta chi le san ge pingguo cai bao.
 he eat ASP threeCL apple CAI full
 'He became full after eating (as many as) three apples.'
 (quantity domain)
 b. Ta chi le san ge pingguo jiu bao le.
 he eat ASP threeCL apple JIU full PART
 'He became full after eating (as few as) three apples.'
- (3) a. Lisi qu wo cai qu. (conditional domain)
 Lisi go I CAI go
 'I will go only if Lisi goes.'
 b. Lisi qu wo jiu qu.
 Lisi go I JIU go
 'I will go if Lisi goes.'
- (4) a. Lisi cai chi le liang wan fan. (restrictive domain)
 Lisi CAI eat ASP two CL rice
 'Lisi has only had two bowls of rice.'
 b. Lisi jiu chi le liang wan fan.
 Lisi JIU eat ASP two CL rice
 'Lisi has only had two bowls of rice.'

In (1)-(3), the two focus particles occur after their foci, i.e. *san dian* 'three o'clock', *san ge pingguo* 'three apples' and *Lisi go* 'Lisi goes', while post-foci CAI and JIU in (4) occur before their foci. For the latter, the focus can be the predicate, the numeral or the object head noun. According to Yang, post-foci CAI and JIU, particularly in the time and quantity domains, contribute to the non-truth-conditional meaning of the sentence by introducing scalar implicatures, which specify the relationship between the focused element and those elements in the speaker's

expectations. Such a relation is linearly ordered. The use of *jiu* in the time domain in (1b) implies that Lisi's return was earlier than expected, while that of *jiu* in the quantity domain in (2b) indicates that Lisi ate less than expected. On the other hand, the use of *cai* in (1a) implies that Lisi's return was later than expected and that of *cai* in (2a) conveys the implicature that Lisi ate more than expected. What *cai* and *jiu* do is to evoke a linear scale and an evaluation between the given values of time or quantity and the expected values.

The use of *jiu* in the conditional domain in (3), on the other hand, marks a sufficient condition, while that of *cai* gives rise to a necessary condition. Following Lai (1985), Yang assumes that the same semantic structures for CAI and JIU can be constructed in the conditional domain. But what is constructed is a hierarchical scale with different prepositions rather than a linear scale with different values of time or quantity. Yang recapitulates Lai's use of the "path" notion of the hierarchical scale in delimiting an area that comprises of alternative propositions that may or may not be on the same path or hierarchically higher/lower than the assertions in conditional uses of CAI/JIU. However, how the notion of "path" is relevant to and located at the hierarchical scale is not made clear. Likewise, how the degree of specific information or informativeness is determined in a path should be explained explicitly.

Moreover, the distinction among the first three domains may not be as clear as Yang posits. Consider the following examples.

- (5) a. Tamen deng le yi ge zhongtou cai likai.
 they wait ASP one CL hour CAI leave
 'They didn't leave until they waited for an hour.'
- b. Tamen deng le yi ge zhongtou jiu likai le.
 they wait ASP one CL hour JIU leavePart
 'They left after they waited for an hour.'
- (6) a. Ta shou dao wushi gongjin tade jiaolian cai manyi.
 she thin to fifty kg. her coach CAI satisfied
 'Her coach was not satisfied until she lost weight and weighed fifty kilograms.'

- b. Ta shou dao wushi gongjin tade jiaolian jiu manyi le.
 she thin to fifty kg. her coach JIU\satisfied PART
 ‘Her coach was satisfied when she lost weight and
 weighed fifty kilograms.’

First, the examples in (5) mark duration of time, not a point of time. A question that arises is whether they involve a quantity domain or a time domain. Will this kind of sentences be harder or easier than those sentences that contain only points of time? Second, while it is clear that those in (6) mark a conditional domain (in a hierarchical scale), quantity (a linear scale) is clearly involved. Would this make those sentences easier or harder for children? Third, if the examples in (6) belong to the conditional domain, then what about (2)?² The only difference between (2) and (6) only lies in the existence of a different subject in the second clause in the latter.

In addition to the above issue related to boundaries of different domains, another issue involves the truth-conditional meaning of the sentences containing the conditional CAI and JIU. Following Paris (1981) who treats p JIU q as the material implication of ‘if p then q ’ in (7), ((38a) on p. 44), Yang states that “it is not contradictory to assert both (38a, b) [(7a,b) here]. So it is natural to utter a sentence like (39) [(8)]” (p. 43). However, equating the logic of (7a) with that of (7b) is confusing. First, they do not share all the truth values; see (9), comparing columns (a) and (b). In fact, it amounts to saying that (7a) denotes that no matter whether it is true of p , as long as q is true, the sentence is true. This meaning though is rendered in both formula as in cells (a-i)/(b-i) and (a-iii)/(b-iii) in (9), yet cells (a-ii)/(b-ii) and (a-iv)/(b-iv) do not share the same truth values.

- (7) p JIU q
 a. $p \rightarrow q$
 b. $\sim p \rightarrow q$

- (8) Lisi qu, wo jiu qu. Lisi bu qu, wo ye hui qu.
 Lisi go I JIU go Lisi not go I also will go
 ‘If Lisi goes, then I will go. If Lisi doesn’t go, I also will not go.’
 (Yang 2009: 44)

(9) Truth value table:

	p	q	(a) $p \rightarrow q$	(b) $\sim p \rightarrow q$	(c) $\sim p \vee q$	(d) $p \leftrightarrow q$
(i)	1	1	1	1	1	1
(ii)	1	0	0	1	0	0
(iii)	0	1	1	1	1	0
(iv)	0	0	1	0	1	1

As for Yang's interpretation of p CAI q , it can be better understood if we consider the material equivalence of p and q , namely p iff q : p materially implies q while q also materially implies p , rather than Yang's negative statement as in (10b).

(10) p CAI q

- a. $p \rightarrow q$
 b. $*\sim p \rightarrow q$

(11) *Lisi qu, wo cai qu. Lisi bu qu, wo ye hui qu.
 Lisi go I CAI go Lisi not go I also will go
 (Yang 2009: (40, 41) on p. 44)

Consequently, the only difference between CAI and JIU in terms of their truth values (columns (a) and (d) in (9)) is in the case when the protasis is false but the apodosis is true, in row (iii). This situation is acceptable in JIU conditional sentences, but not in CAI conditional ones. Moreover, what is explicated in this situation regarding JIU is by no means equivalent to the material implications of $\sim p \rightarrow q$ of JIU (10b) as mentioned by Yang.

The clarification of this difference between CAI and JIU is crucial, since Yang's design of the third experiment on children's understanding of conditional CAI/JIU in Section 4.3 of the book is based on this very difference. The conditional use of JIU contexts is acquired when the participants could successfully judge cases when the protasis clause is either true or false, and as long as the apodosis is true. And the conditional use of CAI contexts is acquired when they only allowed the same truth values of the protasis and the apodosis. The clarification helps readers appreciate the merits of Yang's experimental contexts in Section 4.3.

3. ON YANG'S RATIONALES AND RESEARCH HYPOTHESES

In Chapter 3 Yang first reviews previous studies on the acquisition of focus particles, with focus on the four domains of their scalar meanings that the lexical items express—time (before/after, etc.), quantity (more/less, etc.), conditional (when/if, etc.) and restrictive focus (only). The hypotheses, summarized in (14), were reasonably posited to systematically inquire into the acquisition issues corresponding to the semantic and pragmatic aspects of CAI/JIU in these four domains.

- (14) a. Hypothesis 1: JIU is more unmarked than CAI. Consequently it is easier to acquire than CAI.
- b. Hypothesis 2: Conditional CAI/JIU is more difficult to acquire than time and quantity CAI/JIU.
- c. Hypothesis 3: Children have problems with the scope of restrictive focus operators. They would allow a restrictive focus operator in the pre-subject position to associate with the VP or one in the pre-verbal position to associate with the subject NP.
- d. Hypothesis 4: The semantic subset principle is available to children learning restrictive focus in Mandarin Chinese.

4. ON YANG'S FIRST SET OF EXPERIMENTS

Four experiments were presented in four separate sections: 4.1 Elicited Imitation Study, which studied CAI/JIU co-occurrence restrictions, 4.2 Sentence Selection Study on children's understanding of CAI/JIU in context, 4.3 Truth Value Judgment Study on children's understanding of conditional CAI/JIU, and 4.4 Elicited Inference Study on their understanding of time and quantity CAI/JIU. The experiment designs are summarized in Table 1.

Table 1: A Summary of the Four Experiments in Chapter 4

Tasks	4.1 Elicited Imitation Study	4.2 Sentence Selection Study	4.3 Truth Value Judgment Study (conditional cai/jiu)	4.4 Elicited Inference Study
Participants	Age 4, N=11 (594 tokens), Age 5, N=12 (648 tokens), Age 6, N=12 (648 tokens)	20 children in each group (aged 4, 5, 6) and 13 adults	12 children in each group (aged 4, 5, 6, (same subjects with those in 4.2, and 12 children of aged 8 & 12 adults)	12 children in each groups (aged 4, 5, 6, 8)
Designs	2 (particles) x 3 (domains) x 3 (tokens) x 3 (FCR [†] , VCR ^{††} , TRI ^{†††}) = 54 Ss	2 (particles) x 3 (domains) x 3 (tokens) = 18 pairs of Ss	3 (context types) x 3 (experimental settings) = 9 trials	12 recorded stories played to the children to test if there is any attention span problem for kids

[†] FCR: items following co-occurrence restrictions

^{††} VCR: items violating co-occurrence restrictions

^{†††} TRI: Ss containing cai/jiu-triggers but without CAI/JIU

The token data collected from each task was large enough, and the age groups of the participants were evenly distributed. Our comments on each task are presented below. For the task in Section 4.1, the results were revealing, clearly showing that children tended to correctly imitate the correct co-occurrences between the focus particles and their respective triggers, and tended to delete the particles that violate co-occurrence violations. This shows that children were aware of the co-occurrence restrictions on CAI/JIU at an age as early as four. And Yang showed that triggers like *zao/wan* 'early, late', and *yidian/ duo* 'a little/many(much)' might be acquired earlier than triggers in conditional uses of CAI/JIU.

Supporting her hypotheses, Yang concludes the results of the second task by saying that "JIU is understood better and is used more dominantly, particularly in time domain" (p.132). We suggest that in tables that recorded the percentages of results, raw numbers could be added next to the percentages, since sometimes a large percentage may have been drawn from very few occurrences. Moreover, in certain cells correct responses with CAI were more than those with JIU such as all the three domains for 5-year-old children in Table 4.16. The overall interpretation of the results should include these discrepancies. Although Yang (p. 121) showed significant differences among the domains for JIU, the domain effects were not significant for CAI, and her comparisons of the cells in her discussion were not backed up by further statistical tests. Just by

looking at the percentage differences among cells in Tables 4.15b and 4.16 on pp. 120-121, we cannot see if these differences were statistically significant. Moreover, in the discussion of the differences among cells on p. 123, it is not clear if the differences were significant statistically. To be fair to her, Yang did show statistical comparisons on pp. 126-127 in accounting for the results in Table 4.18. We suggest that for those cells that show significant differences, asterisk marks can be marked for the ease of interpreting the results.

In the third task, the contexts were carefully designed with respect to the presentation order of the contexts, which is crucial in deciding children's choice of conditions of CAI/JIU, the [+ sufficient, -necessary] (biased toward the use of JIU), [-suf, +nec] (biased toward the use of CAI), or [+suf, +nec] (neutral and both CAI/JIU allowed). Again, in this experiment, sentences with JIU were judged better in [+suf, -nec] and [-suf, +nec]. The CAI/JIU in the [+suf, +nec] context were judged perfectly correct in all language groups. Yang also carefully examined individual differences in their responses. The results also supported Yang's hypothesis that 8-year children could successfully distinguish CAI and JIU in the [+suf., -nec.] and [-suf., +nec.] contexts. The 4- to 6-year-olds were able to discriminate between CAI and JIU in the [-suf., +nec] context, but less so in the [+suf., -nec] contexts. Despite that, she concluded that children by five were already sensitive to the CAI/JIU difference in the conditional domain.

In the fourth task, although the results in Tables 4.28 and 4.29 seemed to show that children did better in drawing inferences in CAI sentences, Yang carefully examined the responses to check their true understanding. The pragmatic inference test was relatively difficult for kids under 8. She also pointed out that a potential bias for the results was children's ability to tell what numbers were larger or smaller than the asserted number.

Overall, Yang has carefully designed appropriate and natural contexts to elicit relevant data. The designs were innovative to the extent that the results, after her careful interpretation and examination, could validly support her previous hypotheses in consideration of time, quantity and conditional domains of CAI/JIU.

5. ON YANG'S RESTRICTIVE FOCUS TASKS

Yang's Chapter 5 aims at testing children's knowledge of restrictive focus operators *zhi(you)*, *jiu* and *cai*. Consider the examples in (15)-(17). The pre-subject

focus marker *zhiyou* in (15) takes the subject NP as its focus, while the pre-verbal focus marker *zhi* in (16) has scope over the predicate with a bare noun object. With the presence of a quantified object NP, *zhi* in (17) can have focus on the whole predicate *na zhe liang mian qi* ‘holding two flags’ as in (16), or on the numeral quantifier *liang mian* (two + classifier) or on the head noun *qi* ‘flag’.

- (15) ZHIYOU xiao nanhai ti zhe shuitong.
 Only little boy carryASP bucket
 ‘Only the little boy is carrying a bucket.’
- (16) Xiao nanhai ZHI ti zhe shuitong.
 little boy only carry ASP bucket
 ‘The little boy is only carrying a bucket.’
- (17) Xiao nanhai ZHI na zhe liangmianqi.
 small boy only hold ASP two CL flag
 ‘The little boy is only holding two flags.’
- a. the VP-focus interpretation: The only thing the little boy is doing is holding two flags.’
 - b. the head-noun-focus interpretation: The only two things the boy is holding are flags.
 - c. the quantity-focus interpretation: The number of the things the boy is holding is two.

Based on Crain et al.’s study (1994) that shows English-speaking children tended to ignore the position of the restrictive focus operator in the sentence, Yang predicts that Mandarin-speaking children will ignore c-commanding constraint of focus association and assign focus to the subject even when *zhi* immediately precedes the predicate, allowing the subject focus in interpreting (16). Moreover, it is predicted that children do not distinguish object-focus, but just apply VP-focus. Following Crain et al.’s account (1994), Yang suggests that children are guided by the semantic subset principle in hypothesizing interpretations for the restrictive focus. Please see Table 2 for a brief summary of the two experiments in this chapter.

Table 2: A Brief Summary of the Two Experiments in Chapter 5

Tasks	Picture Verification Study 1	Picture Verification Study 2 (adopting Crain et al.'s design)
Subjects	48 4-to 8-year old children (12 from each of the following age groups-4, 5, 6, 8) plus 9 adults	same as Study 1
Design	<p>1. ZHI & JIU in the bare-NP context 4 (sentence types) * 4 (conditions) * 3 (tokens) = 48 --4 sentence types: a. ZHIYOU + NP + V + NP (pre-subject ZHI) b. NP + ZHI+ V + NP (pre-verbal ZHI) c. JIU + NP + V + NP (pre-subject JIU) d. NP + JIU+ V + NP (pre-verbal JIU) --4 conditions (Figures 5.1a-d on pp. 173-4) a. the different agent + object C(ondition) b. the extra object C c. the extra agent C d. the extra activity C --3 tokens (See (18) below)</p> <p>2. ZHI/JIU/CAI in the quantified-NP 3 (sentence types) x 4 (conditions) x 3 (tokens) = 48 --3 sentence types: a. NP+ZHI + V + numeral Q + NP b. NP +JIU+ V + numeral Q + NP c. NP + CAI+ V + numeral Q + NP --4 conditions (Figures 5.2a-d on pp. 177-8) a. the different agent + object C(ondition) b. the extra agent C c. the quantity mismatch C d. the extra object C --3 tokens (See (19) below)</p>	<p>1. ZHI & JIU in the bare-NP context 4 (sentence types) * 3 (conditions) * 3 (tokens) = 36 --4 sentence types: Same as Study 1</p> <p>--3 conditions (Figures 5.4a-c on p. 201) a. the extra agent + object C b. the modified extra agent C c. the extra object+ activity C</p> <p>--3 tokens: Same</p> <p>2. ZHI/JIU/CAI in the quantified-NP 5 (sentence types) x 4 (conditions) x 3 (tokens) =60 --5 sentence types: (See (20) below) a. ZHI + NP + V + numeral Q + NP b. JIU + NP+ V + numeral Q + NP c. NP + ZHI+ V + numeral Q + NP d. NP + JIU+ V + numeral Q + NP e. NP + CAI+ V + numeral Q + NP --4 conditions (Figures 5.5a-d on pp. 204-5) a. the extra agent + object C b. the modified extra agent C c. the extra object +activity C d. the extra object C</p>

The various sentence types used in the tasks are given as follows:

(18) Tokens used in the bare-NP context:

- a. Xiao nanhai ti zhe shuitong.
 small boy carry Asp bucket
 ‘The little boy is carrying the bucket.’
- b. Xiao nuhai bao zhe xiao ji.
 small girl cuddle ASP small chicken
 ‘The little girl is cuddling the chicken.’
- c. Yeye qian zhe xiao gou.
 grandpa lead Asp little dog
 ‘Grandpa is leading the dog.’

(19) Tokens used in the quantified-NP context:

- a. Xiao nanhai na zhe liangmian qi.
 small boy hold ASP two CL flag
 ‘The little boy is holding two flags.’

- b. Xiao nuhai duan zhe liang ge pingguo.
small girl carry ASP two CL apple
'The little girl is carrying two apples.'
- c. Xiao nuhai qian zhe liangtiao gou.
small girl lead ASP two CL dog
'The girl is leading two dogs.'

(20) Sentence types in Picture Verification Study 2-2

- a. Zhiyou xiao nanhai na zhe liangmianqi.
ZHIYOU small boy hold ASP two CL flag
- b. Jiu xiao nanhai na zhe liangmianqi.
JIU small boy hold ASP two CL flag
'Only the little boy is holding two flags.'
- c. Xiao nanhai zhi na zhe liangmian qi.
small boy ZHI hold ASP two CL flag
- d. Xiao nanhai jiu na zhe liang mian qi.
small boy JIU hold ASP two CL flag
- e. Xiao nanhai cai na zhe liang mianqi.
small boy CAI hold ASP two CL flag
'The boy is only holding two flags.'

Children's responses of Picture Verification Study-1 exhibited three patterns in Section 5.1.3. Pattern B children (17% with ZHI, 13% with JIU) rejected all the test items, but Pattern C children (8%) accepted all of them. Pattern B children are considered by Yang as ignoring ZHI/JIU, and Pattern C children as not understanding the restrictive meaning of the focus operators and ignoring them. In contrast, Pattern A children (63% with ZHI, 54% with JIU), the majority of the 4-to 6-year-olds, consistently accepted only the pre-subject ZHI/JIU and pre-verbal ZHI/JIU under the different agent+object situations, but rejected all other situations. Yang then concluded that children tended to have the VP-focus interpretation and the object-focus interpretation in the sense that they rejected pre-verbal ZHI/JIU under both the extra object and extra activity conditions. Among the three

explanations discussed by Yang, (a) free-focus analysis (b) double-focus analysis, (c) VP-oriented focus, she suggested that the VP-focus interpretation was in congruity with the subset principle, as observed by Crain et al. (1994). The VP-oriented focus results in Yang's study amounts to saying that a majority of children tended to ignore alternative participants/agents in the contexts. They only considered whether the predicate containing the object was restricted by ZHI/JIU with respect to the agent in that sentence.

While we agree with Yang's point that Pattern C children had not acquired the restrictive use of ZHI/JIU, as for the Pattern B results, we conjecture another possibility that may be available in interpreting ZHI/JIU along with the semantic subset principle, rather than Yang's double focus discussion. Namely, children may treat ZHI/JIU as a "proposition restrictor", interpreting sentence P (containing ZHI/JIU either in pre-subject or pre-verbal positions) as it is only the case that P' (without ZHI/JIU). Pattern B children (stage 1) had the interpretations that made "sentences true in the narrowest range of circumstances," since they allowed situations where only the P' existed, excluding other participants or events. Hence, since all the test conditions involved other propositions (agents + events) in the pictures, they rejected all the sentences. As for Pattern A children (stage 2), they started to acquire ZHI/JIU, allowing to contrast P' with other propositions. Hence, while they acknowledged other "different 'agent+object' conditions", such as the three agents carrying different objects, they considered the test item without ZHI/JIU, P', e.g., the little boy carried the bucket, as the only true proposition, conforming to the proposition restrictive ZHI/JIU reading. Pattern A children rejected other conditions (b, c, d) because the agent in those test items either carried another object in addition to the object mentioned in the test items, or the agent collaborated with another agent in performing the event. ZHI/JIU of the test items thus did not restrict these propositions. Our conjectured "proposition restriction of ZHI/JIU" account not only accommodates the semantic subset principle, but also naturally explains the development order: children first restricting the sole proposition (Pattern B), and then gradually contrasting propositions (Pattern A).

Our explanation also extends to her results in Section 5.1.2.2 in the quantified NP context, Tables 5.4 and 5.5 on pp. 184-5. Pattern B children (stage 1), just like those in the previous task, rejected all the conditions because none of the test items were true with respect to the interpretation of *only P'*, due to the possibility of

involving other propositions. Pattern T children accepted the different agent+object and the extra agent conditions. This can be explained by us due to the reason that the pictures contained one proposition that conformed to the proposition P' of the respective test item.

Yang's Picture Verification Study-2 in Section 5.2 is a reduplication of Crain et al.'s (1994) study. Her results in which children persistently interpreted the VP-focus or the object-focus are parallel with those of Picture Verification Study-1. She concluded that both results strongly support predicate-oriented focus or an element within the VP, instead of differentiating between pre-subject and preverbal ZHI/JIU, particularly at the ages from 4 through 6 years old. The acquisition of CAI has a similar tendency as that of ZHI/JIU. Notice that Yang actually was comparing different objects carried by different agents, rather than comparing the same agent performing different events. Hence, the VP-oriented responses concluded by her results actually expressed object-focus. This dominant object focus tendency in Yang's L1 study can be compared with that in Shyu's (2010) study of Mandarin native adult speakers' association with direct and indirect objects in triadic constructions containing *zhi* focus. Without considering the subject focus, she found that adult speakers tended not to contrast alternative indirect objects (participants) or different VPs. Rather, the direct object was predominantly selected as the focus associate, even if the stress was on the indirect object. Shyu suggested an account of topicality of the indirect object and the direct object focus in the predicate. The prominent status of (direct) object focus deserves further investigation in the future, both in L1 acquisition, adult language focus interpretation, or even in second language acquisition (e.g., Shyu 2007).

With further scrutiny of the results in Tables 5.8 and 5.9, we suggest that they can also be accounted for by our above proposed proposition restriction of ZHI/JIU. Children displaying the "double-focus" pattern (stage 1) in Yang's category were those who imposed on the narrowest meaning, restricting the whole proposition (Pattern B in the previous tasks). Hence they rejected all the sentences under the conditions that the test items included other propositions (other agents + events). Moreover, children of Yang's "VP-oriented" pattern, on a par with those of pattern A in the previous tasks, deviated from the expected responses with respect to the pre-subject ZHI/JIU sentences. They wrongly accepted the sentence, *zhìyou/jiù xiǎo nánhǎi tī zhè shuǐtǒng* 'Only the little boy is carrying a bucket', in the "modified extra agent condition" (a boy carrying

a bucket, a girl carrying a bucket, and an old man carrying a suitcase). And they also wrongly rejected it in the condition of “extra object + activity condition” (a boy carrying a bucket and a suitcase, and a girl carrying a suitcase and a plant). The reason of their responses can be due to our suggested proposition restriction of ZHI/JIU, since the former condition contains a proposition P’ (a boy carrying a bucket), but the latter does not. Yang accounts for the results in terms of the “VP-oriented” or object-focus analysis. However, we posit that our proposition restriction analysis can naturally explain both types categorized by Yang and also maintain the subset principle in consideration of the developmental stages. Namely, children first narrowly interpreted the ZHI/JIU proposition restriction, allowing only a single proposition and rejecting all other concomitant propositions. Later children interpreted ZHI/JIU as a proposition restrictor, restricting the whole proposition and ignoring other propositions. In other words, as long as there existed a proposition P’ that conformed to the test item P, children accepted it. This pattern persisted in the second task with quantified-NP context as well.

Our suggested development order of the focus adverb can be further supported by Hsieh’s (2008) longitudinal study, which has illustrated that the child in her study allowed a pre-verbal negative marker to scope over the subject, as shown in (21), and underwent a stage where two copies of the same negative markers were placed in both the pre-subject position and the pre-verbal position, as illustrated in (22).

- (21) Sister: You ren zai jia ma?
 have person at home PART
 ‘Is anyone home?’
 Child: You ren *bu* zai. (2;11)
 have person not at
 ‘No one is in.’
 (cf. Mei you ren zai.)³
 not have person at

(22) *Mei-you ren bi ta bu yiyang.*⁴¹ (3;2)

not-have person compare he not same

‘No one is the same with it.’

(cf. adult utterance: *Mei you ren gen ta yiyang.*)

not-have person with it same

In (21), the combination of the auxiliary *you* and *ren* in the sister’s speech has a non-specific interpretation. Instead of the adult answer, where *mei you ren* yields the ‘no one’ interpretation, the child responded with *you ren bu zai*. It is unlikely that the child used *you ren* in this case to specifically refer to anyone. The child later developed to use double negation as shown in (22), found at the age of 3;2. The double negations in (22) did not cancel each other out. What the child intended was the negation of the indefinite subject. This doubling can be taken to be a crucial piece of evidence that the child started to contrast scope and place the negative marker in the target scope position, but somehow still hasn’t dropped the negation in the lower position. The development from (21) to (22) seems to suggest that children may acquire VP-focus prior to subject-focus, on a par with Yang’s results. Particularly in (22) before the child in Hsieh’s study could acquire the subject focus, he had overgeneralized the focus markers in both positions. While Hsieh’s study focuses on the two stages, she also found evidence to show that prior to the development of the two stages, the same child underwent a stage at which a negative marker was placed in the beginning of a sentence to express a sentence scope, as shown below.

(23) Mother: *Gougou yao zou le.*

Doggie bite away PART

‘The doggie has taken it (the pacifier) away.’

Child: *Mei you gougou yao zou le.* (2;3)

not-have doggie bite away PART

‘It is not the case that the doggie has taken it away.’

Besides the above studies, in a recent study done in Notley et al. (2009) on children’s interpretation of focus expressions in English and Mandarin, it is concluded

that children in both languages associate focus with the canonical locus for new information in SVO languages, the VP (which is typically the bearer of nuclear stress). In addition, it is suggested that children pass through a stage at which *only* is analyzed as a sentential adverb taking scope over both the subject and the VP. Taken altogether, all the above studies seem to suggest an acquisition order of focus adverbs: from focusing (negating) or restricting (ZHI/JIU) a proposition, to the VP or object-focus and then to the subject focus, the later stage in which correct focus associates are rendered. Further studies are needed to further verify such a proposal.

6. CONCLUSION AND SOME FURTHER SUGGESTIONS

This book definitely has far-reaching contributions to our understanding of the semantics/pragmatics of the scalar focus particles CAI/JIU/ZHI, and the acquisition of their intriguing semantics/pragmatics. Based on the sound discussions of the semantics and pragmatics of CAI/JIU, Yang could posit the effective and innovative rationales and hypotheses that could be scientifically verified. She has meticulously designed various tasks so that these hypotheses could be carefully examined and testified. The theoretical issues were tackled and answered. Certainly, future research is needed, and Yang's study no doubt points to some thought-provoking issues to be explored in greater depth in the future.

Finally, for the reprint of the book, we would like to see some glaring typos removed or corrected. Minor typo mistakes that may hinder the reading are listed below. The example of (20b) on p. 31 is glossed wrongly. Hypothesis 4 on p. 79 concerns the semantic "subset" principle, instead of "subject". On p. 81, in the fourth line from the bottom, it should be stated that JIU precedes a "verb" predicate rather than an "adjectival" predicate. On p. 206, the description of the picture in Figure 5.5c does not match the picture given on p. 205.

NOTES

1 Abbreviations used in this review are as follows: ASP (aspect maker), CL (classifier), DE (the modificational marker *de*) and PART (particle marker).

2 Please refer to Hole (2004: 126), who argues that the adverbial temporal *cai*-focus invariably has an *until*-reading.

3 The example in (21) was uttered by the child in his play tent when his sister asked

him whether anyone was in the tent.

4 This sentence was used when the child pointed out that one of the buttons on a picture was different from the others in terms of colors.

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书评杨小璐之焦点语标量:汉语助词才和就的儿童语言习得

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题要

本文评介杨小璐 2009 年所出版其 1998 年之博士论文专书——焦点语标量:汉语助词「才」和「就」的儿童语言习得。杨在第一、二章分别以汉语与英语回顾文献对焦点副词语意, 语用及第一语言习得的研究。根据「才」及「就」语意及语用上的四个面向, 即时间、数量、条件、限制面向, 杨设计了六大项主要实验。结果证实杨之假设:「就」比「才」较早习得。并且因为条件面向之「才」/「就」语意语用较时间及数量面向「才」/「就」之语意语用复杂, 前者习得之结果有异于后者。限制面向之「才」/「就」/「只」对儿童也较难。杨总结以「子集原则」解释儿童习得之过程。杨之假设乃以语意及语用学理论为根据, 且设计之实验项目丰富且极具原创性, 能有效验证儿童「才」及「就」之习得。本文除评介其实验内容及结果外, 也提出焦点关连习得发展之三个阶段之假设, 此提议可以针对杨所提出子集原则的分析提供更自然的解释。

关键词: 焦点副词 就 才 焦点关连 标量蕴涵 焦点习得