

ON THE PARAMETERS BEHIND ANALYTICITY

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1. Introduction

- (1) a. argument structure
- b. radical pro-drop

- analyticity with respect to lexical and functional projections
(the universal base hypothesis and L-syntax)

Huang 2005 (Handout #1): 1. The extensive use of light verb constructions (p.3)
 2. The absence of “virus” on functional heads (p.5)

lexical projections: possible parameters with selection (L-L-L vs. L-F-L-F-L)

functional projections: complications in the structure of DPs (Simpson 2005 (Handouts #1, #2))

2. Complex Predicates

Chinese and Japanese exhibit productive complex predicate formation in syntax.

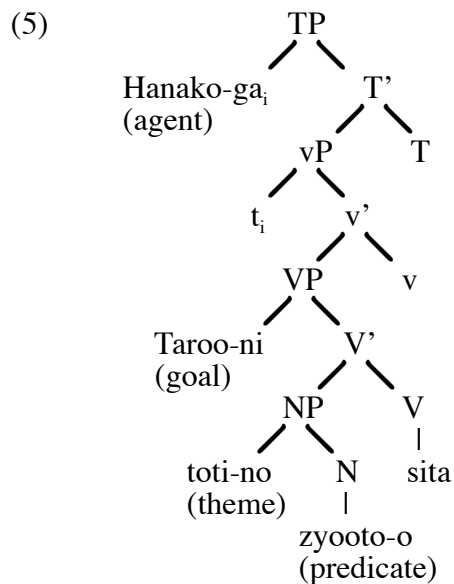
- (2) a. Baoyu xia -shu -le qi
 play-lose-asp chess
 ‘Baoyu played chess (and as a result he) lost it’

 b. Daiyu ku -zou -le henduo keren
 cry-leave-asp many guest
 ‘Daiyu cried (so much that) many guests left’
 (similar to ‘run the pavement thin’ in English)
- (3) a. Taroo-ga me-o naki-harasita
 -NOM eye-ACC cry -made swollen
 ‘Taroo cried, and as a result, made his eyes swollen’

- b. Hanako-ga rosiago-o /-ga yom-eru
 -NOM Russian-ACC/-NOM read-can
 ‘Hanako can read Russian’

- The light verb constructions involve covert complex predicate formation.

- (4) Hanako-ga Taroo-ni /-e [_{NP}toti -no zyooto]-o sita (= *su + ta* (past))
 -NOM -DAT/-to land-GEN giving -ACC did
 ‘Hanako gave a piece of land to Taroo.’ (Grimshaw and Mester 1988)



- (6) *_{[CP Op_i [_{TP} Hanako-ga Taroo-ni /-e toti-o t_i sita] no]} -wa zyooto-o_i da
 -NOM -DAT/-to land-ACC did COMP-TOP giving-ACC is
 ‘*Lit.* It is giving that Hanako did a piece of land to Taroo’

- The same analysis can be applied to the Edo resultative serial verb construction.

(Baker and Stewart 1999, Saito 2001)

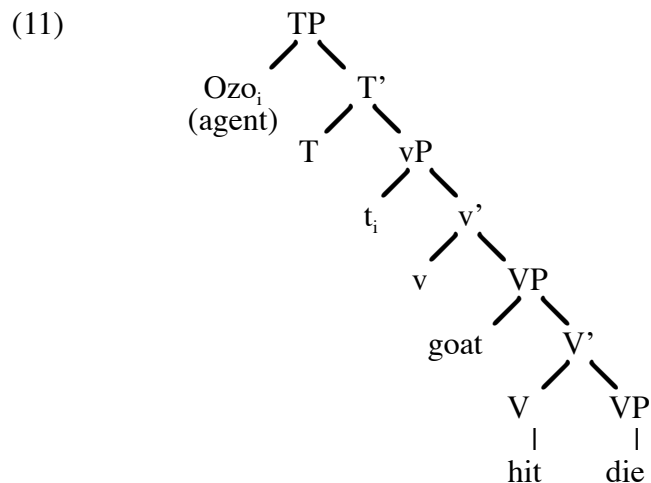
- (7) Òzó ghá gbè èwé wù
 Ozo FUT hit goat die
 ‘Ozo will strike the goat dead’
- (8) a. Òzó tòbòrè ghá gié!gié lé èvbàré
 Ozo by self FUT quickly cook food
 ‘Ozo by himself will quickly cook the food’

b. Òzó ghá (gié!gié) tòbòrè lé èvbàré
Ozo FUT quickly by self cook food

c. Òzó miànmián yá tòbòrè lé èvbàré
Ozo forgot to by self cook food
'Ozo forgot to cook the food by himself'

(9) *Òzó sùá ògó dé tòbòrè
Ozo push bottle fall by self
'Ozo pushed the bottle down by itself'

(10) Úyì dé tòbòrè
Uyi fall by self
'Uyi fell by himself'



- English resultatives exhibit distinct properties.
(Carrier and Randall 1992)

(12) a. She painted the barn red
b. The kids laughed themselves sick

(13) a. How flat did they hammer the metal
b. How red did she paint the barn ... No covert incorporation (cf. (6))

(14) a. Why is it that Edo resultatives cannot be derived by NP-movement?
b. Why is it that English resultatives do not involve overt head movement?

(15) *L – F – L (cf. Li 1990)

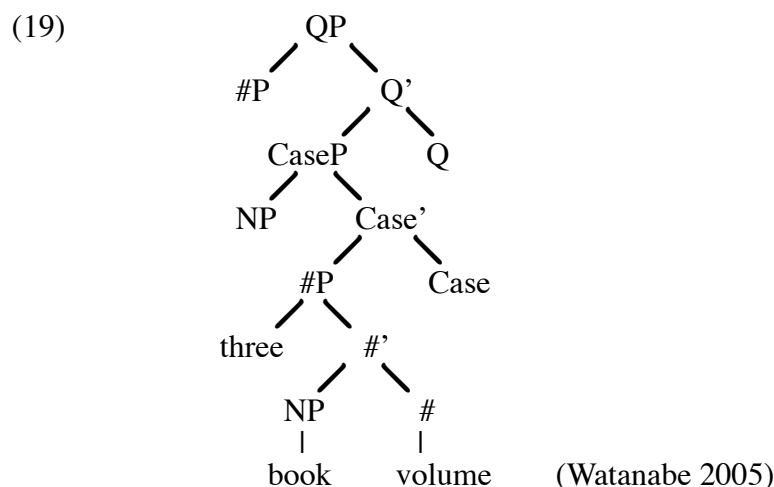
- (16) a. How proud of himself does John think Bill is
 b. How proud of himself does John consider Bill (cf. Huang 1993)

- (17) a. English verbs (and adjectives) need to be associated with functional heads.
 b. Chinese/Edo/Japanese verbs (and adjectives) are not subject to this requirement and hence, V-V incorporation (overt or covert) is possible in these languages.

3. On the Structure of DPs

- universal base for DPs: $[_{DP} \dots [_{CLP} \dots [_{NP} \dots]]]$ (Simpson 2005 (Handouts #1 and #2))

- (18) san -satu -no hon
 three-volume-GEN book
 'three books'



- Constraints on Ellipsis (Saito and Murasugi 1990, Lobeck 1990)

- (20) $[_{DP} XP's D [_{NP} \dots]]$
- a. I liked $[_{DP} \text{Bill's } [_{NP} \text{wine}]]$, but I didn't like $[_{DP} \text{John's } [_{NP} \text{wine}]]$
 b. *I wanted to read $[_{DP} \text{a } [_{NP} \text{book}]]$, so I bought $[_{DP} \text{a } [_{NP} \text{book}]]$
 c. *I read about $[_{DP} \text{the } [_{NP} \text{man}]]$, but I haven't had a chance to see $[_{DP} \text{the } [_{NP} \text{man}]]$
 d. *I have $[_{DP} \text{Bill's } [_{NP} \text{blue } [_{N'} \text{book}]]]$, but I don't have $[_{DP} \text{John's } [_{NP} \text{green } [_{N'} \text{book}]]]$

- (21) a. I left because $[_{TP} \text{John did } [_{VP} \text{leave}]]$

b. John bought something, but I don't know [_{CP} what [_{TP} ~~he bought t_i~~]]

(22) John bought [_{QP} three [_{NP} books]] and Mary bought [_{QP} four [_{NP} books]] (Contreras 1992)

- There is NP-ellipsis in Japanese. (Saito and Murasugi 1990)

(23) a. the barbarians' destruction of the city

b. yuubokumin-no tosi-no hakai
nomad -GEN city-GEN destruction
'the nomad's destruction of the city'

(24) a. John's trip to Europe

b. Taroo-no yooroppa-e-no ryokoo
-GEN Europe -to-GEN trip
'Taroo's trip to Europe'

(25) a. [_{NP} the barbarians' [_{N'} destruction of the city then]]

b. [_{NP} the city's_i [_{N'} destruction t_i then]] (cf. the destruction of the city then)

c. * [_{NP} then's_i [_{N'} destruction of the city t_i]]

(26) a. Taroo-no taido (subject)
-GEN attitude

b. rooma-no hakai (object)
Rome-GEN destruction

c. ame-no hi (modifier)
rain-GEN day
'a rainy day'

d. hutakire -no hamu (modifier)
two-piece-GEN ham
'two pieces of ham'

(27) a. [Taroo-no taido] -wa [Hanako-no ∅]-yorimo yoi
-GEN attitude-TOP -GEN -than good
'Taroo's attitude is better than Hanako's'

- b. [rooma-no hakai] -wa [kyooto-no \emptyset]-yorimo hisan datta
 Roma -GEN destruction-TOP Kyoto-GEN -than miserable was
 ‘Rome’s destruction was more miserable than Kyoto’s’
- c. *(saikin -wa) [hare-no hi] -ga [ame-no \emptyset]-yorimo ooi
 recently-TOP clear-GEN day-NOM rain-GEN -than plentiful
 ‘Recently, there have been more clear days than rainy days’
- d. *[hutakire -no hamu]-wa yuusyoku-ni naru ga, [hitokire -no \emptyset]-wa
 two-piece-GEN ham -TOP supper -to become though one-piece-GEN -TOP
 nara -nai
 become-not
 ‘Two slices of ham make a supper, but one slice of ham doesn’t’

- CLP in Japanese is a modifier and is not in QP Spec.

4. More on the Structure of DPs (Lin, Murasugi and Saito 2000)

- the parallelism between *de* and *no*

(28) *Chinese*

- a. Laowang de taidu (subject)
 Laowang *de* attitude
 ‘Laowang’s attitude’
- b. Luoma de huimie (object)
 Rome *de* destruction
 ‘Rome’s destruction’
- c. mingtian de tianqi (modifier)
 tomorrow *de* whether
 ‘tomorrow’s whether’

(29) *Japanese* a. boku-ga kinoo mita (*no) hito
 I -NOM yesterday saw *no* person
 ‘the person I saw yesterday’

Chinese b. wo zuotian kanjian *(de) ren
 I yesterday see *de* person
 ‘the person I saw yesterday’

(30) *Japanese* a. san -satu *(no) hon
 three-CL *no* book
 ‘three books’

Chinese b. san -ben (*de) shu
 three-CL *de* book
 ‘three books’

(31) *Japanese*

a. ame *(no) hi
 rain *no* day
 ‘rainy day’

b. gakusei *(no)hito
 student *no* person
 ‘persons [who are] students’

(32) *Chinese*

a. *yu de tian
 rain *de* day
 ‘rainy day’

b. *xuesheng de ren
 student *de* person
 ‘persons [who are] students’

c. yu -tian
 rain-day
 ‘rainy day’

(33) a. diwu-shiki de Luoma de huihuai
 fifth-century *de* Rome *de* destruction
 ‘the destruction of Rome in the fifth century’

- b. manzu de chanku de huihuai
 barbarian *de* cruel *de* destruction
 ‘the cruel destruction of Rome by the barbarians’

(33) a. Luoma de huihuai
 Rome *de* destruction
 ‘Rome’s destruction’

- b. manzu de huihuai
 barbarian *de* destruction
 ‘the barbarians’ destruction’

c. *manzu de Luoma de huihuai
 barbarian *de* Rome *de* destruction
 ‘The barbarians’ destruction of Rome’

d. *Luoma de manzu de huihuai
 Rome *de* barbarian *de* destruction
 ‘Rome’s destruction by the barbarians’

(34) *Japanese*

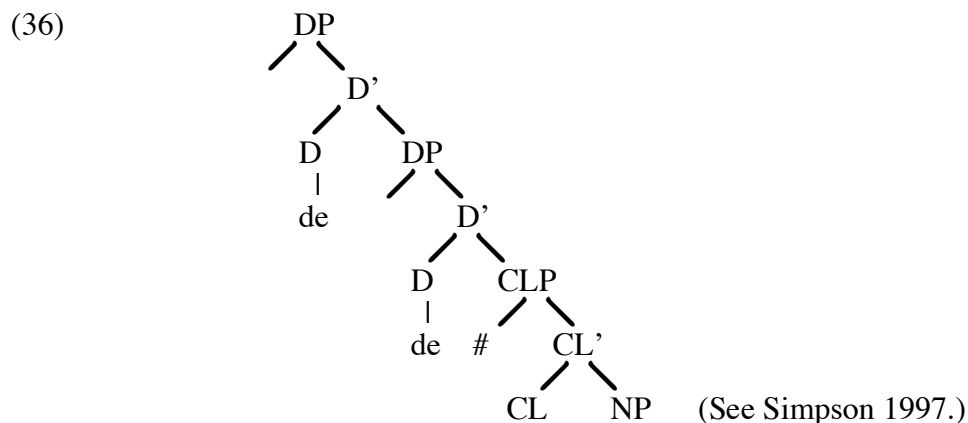
a. John-wa san -satu-no hon -o katta
 John-TOP three-CL -*no* book-ACC bought
 ‘John bought three books.’

b. San -satu, John-wa hon -o katta
 three-CL John-TOP book-ACC bought
 ‘It is [for] three that John bought books.’

(35) *Chinese*

a. Zhangsan mai-le san -ben shu
 Zhangsan buy-PERF three-CL book
 ‘Zhangsan bought three books.’

b. *San -ben, Zhangsan mai-le shu
 three-CL Zhangsan buy-PERF book
 ‘It is [for] three that Zhangsan bought books.’



5. Tentative Conclusions

- (37) F – F – F – L – L – L
- English: rigid lexical properties, poor syntax of lexical categories
 - Japanese: rigid lexical properties, rich syntax of lexical categories, poor in Functional projections
 - Chinese: loose lexical properties, rich syntax of lexical categories, rich in quasi-lexical, quasi-functional categories (light verbs, recursive D, and CLs)

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6 Unitarity, Causality and Analyticity. The propagator for a scalar particle can be written in terms of a "dispersion relation" sometimes called the "Källén-Lehmann representation". The Feynman parameters are at the end-points of the range of integration. At such points the contribution to the amplitude from the Feynman graph has a (branch-point) singularity. The first two graphs on the RHS are integrated over two-body phase-space and the last two over three-body phase-space.

6.3 Dispersion Relations.

The singular part of an integral which depends on a parameter, a practical calculation of the coefficient. Cite this chapter as: Pham F. (2011) Analyticity of an integral depending on a parameter. In: Singularities of integrals. Universitext. Springer, London. https://doi.org/10.1007/978-0-85729-603-0_6. DOI https://doi.org/10.1007/978-0-85729-603-0_6. Publisher Name Springer, London. Print ISBN 978-0-85729-602-3. Online ISBN 978-0-85729-603-0.

On the other hand, interval estimation uses sample data to calculate the interval of the possible values of an unknown parameter of a population. The interval of the parameter is selected in a way that it falls within a 95% or higher probability, also known as the confidence interval. A confidence interval is an estimate of an interval in statistics that may contain a population parameter. Since it would be impossible to measure all babies born prematurely in the population, the researcher can take a sample from one location. Since the weight of pre-term babies follows a normal distribution, the researcher can use the maximum likelihood estimator to find the average weight of the entire population of pre-term babies based on the sample data. More Resources.