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摘要

本人於 2012 年 07 月 30 日到 08 月 04 日至日本札幌參加「2012 認知科學學會年會」(The Annual Meeting of The Cognitive Science Society, 簡稱 COGSCI 2012) 國際研討會, 並且以海報發表論文「動詞論元之同質性與句法結構複雜度之關聯」(Argument Homogeneous and Structure Simplicity)。論文主題討論了動詞論元 (argument) 以及動詞論元在句法上的結構。主詞與受詞皆為動詞的論元, 在時間的表現上這兩者常同質性 (homogeneous) 和異質性 (heterogeneous) 兩種特性, 例如 *sleep* 的主詞便具備同質性, 而相對的 *fall* 的主詞則是具備異質性的特色。本研究主要是提出了各種動詞的論元在句法上的結構分析, 並且提出異質性的論元隸屬在兩個層級的動詞片語 (Verb Phrase) 中; 相對的, 同質性的論元在動詞片語裡則是一個層級的動詞片語當中。也因此, 在自然語言裡, 異質性的論元在句法結構上, 比起同質性的論元來的更加簡單。

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1. 目的

參加「認知科學學會年會」(The Annual Meeting of The Cognitive Science Society)，簡稱 COGSCI 2012，並且發表論文「動詞論元之同質性與句法結構複雜度之關聯」(Argument Homogeneousness and Structure Simplicity)。希望藉著這次機會，得知研究中不足和闕漏之處，使未來研究內容更加完善。再者，這次研討會與會者皆為此領域相關的研究者，參加這次研討會能夠與這些學者們交流，更可以得知目前學界所關切之最新議題為何，除了能夠跟上世界的潮流之外，也能夠得到更多新的啟發。

2. 過程

本次赴日本參加的研討會為「認知科學學會年會」(The Annual Meeting of The Cognitive Science Society)，簡稱 COGSCI 2012，為認知科學學會 (Cognitive Science Society) 固定舉辦之年會。本次年會為第三十四屆，總共進行四天，自 2012/08/01 起到 2012/08/04，擇定於日北札幌舉行，有超過百篇口頭發表以及超過百篇的海報論文發表，內容可說相當豐富充實。這次的年會一如往常，廣範圍的向全世界所有認知科學學門的學者們徵稿，希望藉由這次年會，讓所有優秀的學者至此發表他們最新的研究主題，讓同一學門的學者們有一個互相認識，彼此交流意見、相互切磋的機會和場合。

值得一提的是，這次的年會為首次在亞洲地區舉行。此次大會為了能夠讓來自歐美地區的發表者和其他與會者可以克服長途跋涉之困難，在食宿、交通等的準備特別下了許多工夫。另外，本次年會更是邀請了 Lawrence W. Barsalou、Gerd Gigerenzer 以及 Nancy J. Nersessian 等三位著名的學者發表演講。其中 Lawrence W. Barsalou 更是一名對於人類認知處理程序 (human conceptual processing)、記憶、訊息接收 (perception)，以及認知與人類語言行為都有深入研究的學者。

本次會議總共四天，第一天的時候為工作坊與各項指導課程，同一時間內有八個場次並行，各自又分成上午及下午場次。內容包含了有討論人類感覺接收模組

(perception model)、智慧型手機作業系統 Android 在認知科學研究上的運用等的工作坊，還有像是各種人類行為研究、神經科學研究、統計科學應用、認知模組等主題的指導課程。第二天開始，便是正式的年會開幕。一連三天，每天早上一開始便有邀請的講者進行演講，第二天講者為 Gerd Gigerenzer，第三天則是 Nancy J. Nersessian、第四天為 Lawrence W. Barsalou。每天演講結束後，便開始三場並行的座談會，討論各項不同的主題，包含了有認知科學模組，還有像是人類學習、決策等行為研究，也有認知神經科學和電腦科技的探討。座談會過後就是分成三個時段、每個時段六個並行場次、每個場次四篇文章發表的論文發表時間，接連三天總計有超過兩百篇的論文發表。論文發表場次結束之後，接著又是各項座談會、演講。最後則是論文海報發表時間，每天有將近 199 篇的海報發表，三天總計將近六百篇的論文。每一天的會議皆是從早上八點持續到晚上八點鐘，接連三天行程相當緊湊充實。

這次向投稿的論文題目訂為「動詞論元之同質性與句法結構複雜度之關聯」，為我原創撰寫之研究論文。當研討會主辦單位收到我所寄送的摘要，他們隨即將摘要送給匿名審查委員進行初步的審查。經過初步的審查，委員們每一位都對送交的摘要提供了十分詳盡而且中肯的建議，也對這篇論文可能遇到的問題和不足之處提出相當多的指正和評論。

本次論文主題討論了動詞論元 (argument) 以及動詞論元在句法上的結構。主詞與受詞皆為動詞的論元，在時間的表現上這兩者常同質性 (homogeneous) 和異質性 (heterogeneous) 兩種特性，例如 *sleep* 的主詞便具備同質性，而相對的 *fall* 的主詞則是具備異質性的特色。本研究主要是提出了各種動詞的論元在句法上的結構分析，並且提出異質性的論元隸屬在兩個層級的動詞片語 (Verb Phrase) 中；相對的，同質性的論元在動詞片語裡則是一個層級的動詞片語當中。也因此，在自然語言裡，異質性的論元在句法結構上，比起同質性的論元來的更加簡單。我詳細的參酌審查委員所給的評論和意見之後，將原先的論文版本進行了修改。修改完成後，我便在研討會的第二天，亦即 08 月 03 日進行海報發表。

在張貼論文發表的時間裡，有許多參與的學者對我的議題感到興趣，便與在海報前的我詢問了許多本篇論文的議題，也對發表內容不清楚之處進行發問，甚至在休息時間以及用餐時間時，亦有不少人找我繼續討論論文的相關議題。而在參與研討會期間，也聽了許多其他學者們發表的研究和論文，我對部分學者們的研究議題感到相當有興趣，在他們發表後也向他們提出一些個人看法和建議。

除了論文發表時間，此次參加研討會也參與了不少其他學者發表演說的現場。由於此次的研討會為認知科學學會所舉辦，有別於其他的語言學研討會，會議內容除了語言學外相當包羅萬象，涵蓋了所有與認知科學相關的學科。和語言學相關的議題包含了語言發展、語用與認知、語用與幽默、語言理解、閱讀與理解歷程、語意學、語言與手勢、對話、語意網路……等。當中令我印象深刻的，是 Morett、Gibbs、MacWhinney 三位研究者以「手勢在第二語言學習中扮演的角色：溝通、習得與回想」(The Role of Gesture in Second Language Learning: Communication, Acquisition, & Retention) 為題目，探討了手勢與語言學習、溝通的現象，三位學者皆是研究手勢、手語的知名學者，他們的研究和中正大學語言所長年發展的手語研究有著密切關聯。在他們的發表中提到，手勢對於第二語言學習者而言，能夠幫助他們學習對話溝通，而且幫助他們學習新的詞彙。特別是在對話者能夠互相見到彼此的時候，第二語言學習者會使用更多的手勢來幫助思考和進行對話，而這些手勢讓他們可以快速的回想起自己剛學會的新詞彙，這對於第二外語學習有十分正面的幫助。此外，Mol 與 Kita 兩位學者聯合發表了「手勢結構對中句法結構的影響」(Gesture Structure Affects Syntactic Structure in Speech)，文章中探討了手勢與對話中句法結構是否有所關連，而他們指出對話中的手勢會幫助對話者將手勢當中蘊含的資訊，例如手勢方向與路徑放進對話的各個句子當中。

另外，本校麥傑老師亦在此會議上與 Wilson、Cohn、Goldberg、Cohen-Goldberg 等人聯合發表了「Grammatical Approaches to Written and Graphical Communication」為主題的研究。這篇研究主要探討中文字的造字結構與這些結構在各方面的影響。而他們在研究中指出，中文造字結構存在著相當嚴密的規則，而且這些規則甚至

於會影響音韻結構的判斷。如同前面所描述，會場各項主題包羅萬象，與語言學相關的主題不少，也有很多像是概念範疇分類（categorization）、空間概念、數學概念等的習得與認知的主題。也有許多學者發表和電腦工程學與人類認知歷程相關的題目，像是類比、推理、理解、記憶、群體行動、判斷以及決定等。

3. 心得及建議

這次的研討會為認知科學學會主辦，內容包含了所有與認知科學相關的議題，因此不僅僅只是語言學而已，會場中還有許多其他學門的專家學者參加或是發表論文。而且此次會議發表的論文篇數相當的多，內容可說是相當多樣化而且精彩、充實，相當值得所有投入認知科學領域的研究者們參與。在這次參與研討會的過程裡，藉由與其他不同領域和同樣領域的學者們共同討論，以及這些學者們所給的評論回饋，讓我對於自己的研究內容有了更進一步的想法。而且，透過參與聆聽他人的發表，也令我接收不少新的資訊和刺激，相信這些都能夠作為未來修改論文或是更新的研究時的重要參考依據。

透過這次參與認知科學學會，除了參與了眾多學者發表的包括了語句處理、語言和概念、語音的感知和語言習得的文章，也看見了許多學者在語言和其他認知能力，如數學和音樂之間的相互關係所作探討。同時在會場上，藉由此機會與國外人文學科的專家學者一同探討語言學過去、現狀及未來等問題，獲益良多。而中正語言所也可考慮邀約國內外從事相關語言學甚至是其他認知科學的學者到訪，鼓勵學生將自己的視野擴展開來，將語言學與其他認知科學結合，拓展研究領域版圖，並且鼓勵學生發表自己所研究的議題，透過每個禮拜五中正語言所的當代議題(Colloquium)，與學者一起交流，必定讓學生與老師們都能獲益良多。

4. 被會議評審接受發表的論文摘要

Argument Homogeneousness and Structure Simplicity

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Abstract

Subjects and objects are arguments of verbs. They show either homogeneous or heterogeneous properties, with respect to time. The subject of *sleep* and the subject of *fall* are homogeneous and heterogeneous, respectively. In this research, we develop a novel analysis of the organization of arguments of various types of verbs. We argue that heterogeneous arguments are hosted in two levels of Verb Phrase, whereas homogeneous ones are hosted in one level of Verb Phrase. Therefore, homogeneous events and states are encoded in simpler syntactic structures than heterogeneous ones in natural language.

Keywords: argument; verb, syntax; language, simplicity; homogeneous; heterogeneous; transitive; intransitive.

1. Introduction

The goal of this study is to try to explore the cognitive view that different conceptualizations will lead to different syntactic structures and that the complexity of the former should correlate with the complexity of the latter. This study develops Klein's (2010) new theory of the arguments of verbs and proposes a novel analysis of the structures of the arguments of various kinds of verbs. Instead of the traditional triple division of transitive verbs (e.g., *kiss*), unaccusative intransitive verbs (e.g., *arrive*), and unergative intransitive verbs (e.g., *sleep*), we argue that verbs are first divided into homogeneous and heterogeneous ones, and then each type is further divided into transitive and intransitive subtypes. The two major types are different in the number of Verb Phrases (VPs) are involved in the syntactic structures: homogeneous ones have only one-layer of VP, while heterogeneous ones have two-layers of VP. Therefore, in our understanding, homogeneous events and states are encoded in simpler syntactic structures than heterogeneous ones.

We will introduce a new classification of verbs based on Klein (2010), then present our proposal, in Section 2 and 3, respectively. In Section 4, we list our supporting facts. Finally, in Section 5, we make some general remarks about this new syntactic analysis.

2. Classification of Verbs

Based on the homogeneousness of the properties of an argument with respect to time, Klein (2010) discusses certain types of verb stems in their default readings. As pointed out by an anonymous reviewer, Klein's term time should be understood as state. I thus use the term state rather than Klein's term time. There are one-state arguments, which are homogeneous in the event or state, such as the subject of *laugh*. There are also two-state arguments, which

have a source state and a target state, and thus they are not homogeneous in the event or state, e.g., the subject of *fall*.

Homogeneous Intransitive (HOI) verbs have one argument with respect to one state, e.g., *sleep, dance, vibrate, be*.

Homogeneous Transitive (HOT) verbs have two arguments with respect to the same state over time, e.g., *weigh* with a measure phrase, *resemble, admire*.

Heterogeneous Intransitive (HEI) verbs have one argument with source time state and target time state, e.g., *die*, (intransitive) *drown, rise, remain*.

Heterogeneous Transitive (HET) verbs have two arguments — one at one time state, one with source time state and target time state. The state of the one-time state argument can overlap the source or target time states of the other argument, e.g., *leave, close, slay*, (transitive) *drown, observe*.

We summarize the classification in the following table (AS = Argument-State; Ss = source time state; St = target time state):

(1) Common AT-structures (cf. Klein 2010: 1231)

type	description	typical examples	AS skeleton
HOI	1 argument at one state	<i>sleep, dance, vibrate, be</i>	A S
HOT	2 arguments at the same state	<i>weigh</i> with a measure phrase	A1 A2 ∨ S
HEI	1 argument with source state and target state	<i>die</i> , (intransitive) <i>drown, rise, remain</i>	A ∧ Ss St
HET	2 arguments—1 at one state, 1 with a source state and a target state.	<i>leave, close, slay</i> , (transitive) <i>drown, observe</i>	A1 A2 ∨ Ss St

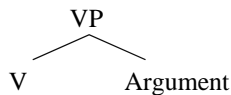
3. The Structure-Positions of Arguments

A well-adopted assumption is that all verbs are represented by a two-layer verbal projection: a vP to host the external argument of a transitive verb, or the unique external argument of an unergative verb, and a VP to host the internal argument of either a transitive verb or an

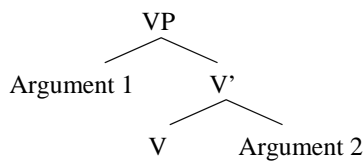
unaccusative verb. The assumption does not consider the contrast between HO and HE verbs at all. All external arguments are assumed to have the same syntactic position, i.e., Spec of vP.

We propose that arguments of the four types of verbs are base-generated as in (2).

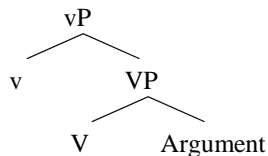
- (2) a. HOI: [_{VP} V Argument]



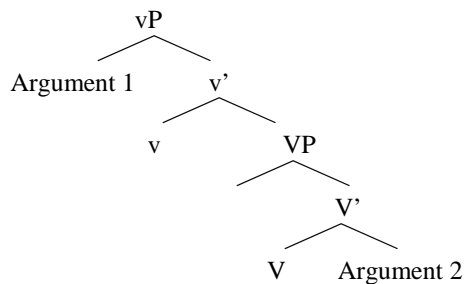
- b. HOT: [_{VP} Argument 1 [V Argument 2]]



- c. HEI: [_{VP} v [_{VP} V Argument]]



- d. HET: [_{VP} Argument 1 v [_{VP} V Argument 2]]



One can see that HE verbs have vP, whereas HO ones do not, regardless of how many arguments occur. In (2b), the two arguments are hosted in the same VP; but in (2d), the two arguments are hosted in vP and VP, respectively.

In the structures for HO verbs, only one-layer of VP is projected, and there are maximally two positions for arguments: one is at Spec and the other is at Complement of V. In contrast, in the structure for HE verbs, there are two layers of VP, and thus one more position is available for an additional argument.

4. Supporting Facts

Three kinds of evidence supports our proposal in (2): the integrity of the verbs and the arguments of HO

constructions (4.1); the structural richness of HE constructions (4.2); and the special contrasts between HO and HE verb constructions (4.3).

4.1 Structure Integrity

All of the arguments that support severing the subject from VP or projecting of a vP shell (Marantz, 1984; Larson, 1988; Kratzer, 1996) come from HE, rather than HO, constructions. Typical tests are pseudo-cleft and the do-so replacement.

4.1.1 Pseudo-cleft Unlike HE verbs, HO verbs fail in pseudo-cleft (Zucchi, 1998: 349) (* means the sentence is not acceptable).

- (3) a. What John did was eat an apple. [HE]
 b. *What John did was resemble his father. [HO]

4.1.2 vP-proform do so Unlike HE verbs, HO verbs fail in replacement by the vP-proform *do so* (Ross, 1970; cf. Stroik 2001: 367).

- (4) a. Chris is leaving now, and Sam is doing so too. [HE]
 b. *Mary likes Sam, and Chris does so too. [HO]
 c. *The shoes cost 5 dollars, and the gloves do so too. [HO]

The two restrictions on HOT verbs are covered by (2b), where the whole VP is composed of two arguments and the verb. In the structure, the combination of V and Argument 2 is just part of a VP, which lacks syntactic visibility (Chomsky 1995). The combination is not a vP, either, since vP does not exist for this type of verbs. Therefore, it may not be replaced by *do so*.

4.2 Structure Richness

HE constructions have more argument positions than those of HO constructions. This can be seen in the following four facts.

4.2.1 Double object constructions Why is there no double object or applicative HO verb (5)? If only HE verbs may host their arguments in two layers of VP, the contrast is explained. (2b) does not have enough positions for three arguments.

- (5) a. I gave him the clothes. (HET)
 b. *I like him the clothes. (HOT)
 Intended: 'I like him with respect to his clothes.'
 (6) a. John rented Bill a room. (HET)
 b. *John resembles Bill the eyes.
 Intended: 'John looks like Bill with respect to their eyes.'

4.2.2 Object control constructions There is no HO object-control construction, which has two internal arguments: a nominal and a clause.

- (7) a. Mary forced John to feed the baby.
 b. *Mary admired John to feed the baby.
 Intended; ‘Mary admired John for his feeding of the baby.’

4.2.3 Expansion from HO to HE constructions Many verbs may occur in either HO or HE constructions (e.g. Dowty 1979: 60; Rosen 1999). It is easy to change an otherwise HO construction into a HE one by adding a delimitable element. But we do not add material to a HE structure to change it into a HO one (Thompson 2006: 218). HE structures are thus richer than HO ones.

- (8) ADDITION OF DIRECT OBJECT
 a. Bill ran (*in 5 minutes). [HO]
 b. Bill ran the mile in 5 minutes. [HE]
- (9) ADDITION OF INDIRECT OBJECT
 a. That book costs three dollars. [HO]
 b. That book has cost me three dollars. [HE]
- (10) ADDITION OF COGNATE OBJECT
 a. Terry sang (*in an hour). [HO]
 b. Terry sang the ballad in an hour. [HE]
- (11) ADDITION OF X’S WAY EXPRESSION
 a. Terry sang (*in an hour). [HO]
 b. Terry sang her way to the Met in 10 years. [HE]
- (12) ADDITION OF FAKE REFLEXIVE
 a. Terry sang (*in an hour). [HO]
 b. Terry sang herself to sleep in an hour. [HE]
- (13) ADDITION OF RESULTATIVE
 a. Terry ran (*in an hour). [HO]
 b. Terry ran us ragged in an hour. [HE]

Note that heterogeneous events can be repeated (*Mary dried the dishes in an hour. vs. Mary dried the dishes for hours before being released from duty*) (Thompson 2006: 218; Ramchand 2008: 31). It is just like all nominals can be counted if an appropriate unit is identified (*two drops of water* as well as *two books*).

4.2.4 Verb affix marking Certain formatives mark the HE status of the verb, and their absence marks the HO status, e.g., *meg-* in Hungarian (Hopper & Thompson 1980: 267) (O means object):

- (48) a. *A gazda MEG-verte az inasokat.*
 the boss PERF-beat(OBJ) the apprentices(ACC)
 ‘The boss beat the apprentices.’
 b. *A gazda verte az inasokat.*
 the boss beat(OBJ) the apprentices(ACC)
 ‘The boss would beat the apprentices.’

With the prefix *meg-* (Hetzron’s ‘effective aspect’), 48a means that the boss did beat all the apprentices on one occasion; the action is thus perfective and punctual, and the object is totally affected. But 48b, without *meg-* (Hetzron’s ‘descriptive aspect’), means that the boss was not above beating the apprentices, that he did it from time to time, but that not all the apprentices were necessarily involved; the action is claimed, then, to be imperfective and iterative, and the O is not totally affected.

From the above citation, we can see that the event reported in (48a) is bounded and thus the sentence is a HE construction, whereas the event reported in (48b) is unbounded and thus the sentence is a HO construction. Presumably, formatives such as *meg-* are licensed by vP, and thus the HE reading correlates with a richer structure.

4.3 Special Contrasts Between HO and HE Verbs

Three further contrasts between HO and HE verbs are reported as below.

4.3.1 Intransitive verbs exhibit HO-HE contrasts Only HEI verbs allow the expletive *there*, but HOI verbs may not, as seen in (14).

- (14) a. There arrived a train in the station. [HE]
 b. *There laughed a man in the hallway. [HO]

This contrast can be captured by the assumption that the expletive is base-generated in vP only (Deal, 2009). (2c), but not (2a), has vP, although both are for intransitive verbs.

4.3.2 Transitive verbs exhibit HO-HE contrasts We have seen the contrasts between HOT and HET in English in (4). Moreover, in some languages (e.g. Finnish, Hungarian) only HE structures have accusative case marker. The following Finnish examples are cited from (Hopper & Thompson 1980: 262):

- (15)
 a. *Liikemies kirjoitti kirjeen valiokunnalle.*
 businessman wrote letter (ACC) committee-to
 ‘The businessman wrote a letter to the committee.’
 b. *Liikemies kirjoitti kirjettä valiokunnalle.*
 businessman wrote letter (PART) committee-to
 ‘The businessman was writing a letter to the committee.’

In (15a), the presence of the ACC (accusative) marker with the direct object *kirjeen* ‘letter’ indicates a bound event: a letter was created at the target time, and thus the event was not homogeneous. In (15b), however, there is no ACC marker with the direct object, and the event could be homogeneous. See Rosen (1999) for more such examples.

The contrast can be captured in the contrast between (2b) and (2d): the overt accusative case marking is licensed by vP (cf. Chomsky 1995). Only in (2d), which is for HET, vP is projected and thus the ACC marker can be licensed. Since

there is no vP in (2b), which is for HOT, no ACC marker can be licensed in the structure.

4.3.3 The prefix *re-* Certain rules apply to HE constructions only, but not HO ones, regardless of whether the verb is transitive or intransitive. The English prefix *re-* occurs with HE verbs only, as seen in (16) (Horn, 1980). Since *again* behaves differently, the issue is not semantic.

- (16) a. The door reopened. [HE]
 b. I reopened the door. [HE]
 c. John {*resmiled/smiled again}. [HO]
 d. *John re-admired his father. [HO]

Note that *re-* scopes over either the HE root or the affected nominal (Marantz, 2005). But the ambiguity is independent of the HE restriction.

4.3.4 The time frame preposition phrases Preposition phrases like *in an hour* are licensed by HE verbs, regardless of whether the verb is transitive or intransitive, as seen in (17). Thompson (2006) shows that such PPs are licensed by a projection higher than VP. Their absence in HO constructions indicates that the structure of HO constructions are lower and thus simpler than that of HE ones.

- (17) a. John walked to the store in two hours. [HE]
 b. John destroyed the toy in two hours. [HE]
 c. *John slept in two hours. [HO]
 d. *John admired his father in two hours. [HO]

5. General Remarks

In this proposed new analysis of the time-argument structures of various types of verbs, the structures of homogeneous eventuality constructions are simpler than those of heterogeneous ones.

A parallel analysis of noun constructions is found in Borer (2005) and Zhang (2012). In Borer's analysis, CLP or DivP is projected for count nominals, but not for mass nominals. In Zhang (2012), DelimitP is projected for non-mass nominals, but it is absent in the structures of mass nominals. In both analyses, the structures of mass nominals are simpler than those of count nouns. The former shows homogeneousness, whereas the latter does not.

The significance of this study is that, like Borer's (2005) and Zhang's (2012) studies of nominal structures, our research of verbal structures here also show that the perceived homogeneousness in our understanding of the world, including events and individuals, correlates with the simplicity of linguistic structures.

References

Borer, H. (2005). *In name only*. New York: Oxford University Press.

Chomsky, N. (1995). *The Minimalist Program*. Cambridge, MA: MIT Press.

Deal, A. (2009). The origin and content of expletives: evidence from "selection". *Syntax* 12: 285-323.

Dowty, D. (1979). *Word meaning and Montague Grammar*, Dordrecht: Reidel.

Hopper, P. & S. Thompson. (1980). Transitivity in grammar and discourse. *Language* 56: 251-299.

Horn, L. (1980). Affixation and the Unaccusative Hypothesis. *CLS* 16: 134-146.

Klein, W. (2010). On times and arguments. *Linguistics* 48: 1221-1253.

Kratzer, A. (1996). Servering the external argument from its verb. In Rooyck, J. and L. Zaring (eds.) *Phrase Structure and the Lexicon*. Dordrecht: Kluwer.

Larson, R. (1988). On the double object construction, *Linguistic Inquiry* 19: 335-91.

Marantz, A. (1984). *On the nature of grammatical relations*. Cambridge, MA: MIT Press.

Marantz, A. (2005). Rederived Generalizations. Ms. MIT.

Ramchand, G. (2008). *Verb meaning and the lexicon*. Cambridge: Cambridge University Press.

Rosen, S. (1999). The syntactic representation of linguistic events. *GLOT International* 4.2: 3-11.

Ross, J. (1970). Act. In D. Davidson & G. Harmon (eds.) *Semantics of natural language*, 70-126, Dordrecht: Reidel.

Stroik, T. (2001). On the light verb hypothesis. *Linguistic Inquiry* 32: 362-369.

Thompson, E. (2006). The structure of bounded events. *Linguistic Inquiry* 37: 211-228.

Zhang, N. (2012). Numeral Classifier Structures. [lingBuzz/001197](http://ling.buzz/001197). <http://ling.auf.net/lingBuzz/001197>.

Zucchi, S. (1998). Aspect shift. In S. Rothstein (ed.) *Events and Grammar*, 349-370, Dordrecht: Kluwer.