

The Fourth VariAMU Workshop

Endurant vs Perdurant:
*An Ontological View of How Variations
are Linguistically Conventionalized*

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A Few Linguistic Puzzles

- ◆ Why 的的的ight的at的(almost的ever)的akes的ff的的10:10的alled的e的:10的ight?
- ◆ What的does的inguists的mean的的ouny'的and的'verby'?
- ◆ Or的what的does的N,的V的mean的when的when的e的的Noun的的[N,的V],and的adjectives的的[N,的V]?
- ◆ Why的ann't的e的的醫院病人的ospital的patient)的的Mandarin?

Why 1

- ◆ A flight that is scheduled for 10:10 typically takes off earlier.
 - ◆ Say it is delayed and took off at 2:30...
 - ◆ But we simply cannot inquire about the arrival time of the 2:30 flight..
- ◆ Why are we linguistically obliged to infer that the flight that is scheduled for 10:10 while we know that the departure time is actually incorrect?

Why 2

- ◆ What does 的 mean in noun/verb 的/-的 N, 的/-V linguistically?
 - ◆ We do have verbal nouns, and nominal verbs etc.; hence noun '的' does not mean 'being' noun; and verb '的' does not mean 'being' verb.
 - ◆ Is there any theoretical, empirical or cognitive ramification of this seemingly autological stipulation?

Why 3

- ◆ NN 的 compound 的 common 的 and 的 productive 的的 Mandarin 的 Chinese 的 and 的 speakers 的 have 的的 problem 的 accepting 的 school 的 teacher 的 學校老師, 的 hotel 的 chef 的 酒店廚師, 的 primary 的 school 的 student 小學學生;
- ◆ Mandarin 的 speakers, 的 however, 的 strongly 的 dis-prefer 的 hospital 的 patient' 的 醫院病人, 的 and 的 would 的 prefer 的 醫院的 病人

Outline of the Talk

- ◆ **Three Linguistic Puzzles**
 - ◆ **Endurant vs. Perdurant Ontological Dichotomy**
 - ◆ **The Ontological Basis of Language**
 - ◆ **Linguistic representation of ontology in Mandarin Chinese:**
 - Sortal Classifiers Denote Endurant Properties**
 - Measure Words Denote Perdurant Properties**
 - ◆ **The Pedurant Marking Function of 的 *de***
- <http://link.springer.com/article/10.1186/s40655-015-0004-6>
- ◆ **Speculations on Ontological Basis of Language Variations**
 - ◆ **Light verb selection in World Chineses**
 - ◆ **Emergence of Classifiers in Chinese**
 - ◆ **(Verbal) Incorporation: VO and SO compounds in Chinese**
 - ◆ **Lose of gender and case in Middle English**

Endurant/Perdurant

- ◆ Basic Terms in Ontology

- ◆ Ontology in the application of information science and knowledge engineering: the shared system of knowledge representation (e.g. Gruber, Sowa, ...), often presented in terms of conceptual atoms and relations

- ◆ Also called **continuant/occurrent**

- ◆ Whether the concept is independent (endurant) or dependent (perdurant) or the

Endurant/Perdurant II

- ◆ Note that the (in)dependency of the (judged) from the physical/logical necessity (as the formal ontology) based on (human) conceptualization (as the linguistic ontology)
 - ◆ Entities are typically considered the endurants; and processes are typically the perdurants
 - ◆ Endurants are hence noun-like and perdurants are more verb-like; however, languages have ways to turn the perdurants into endurants and vice versa
 - ◆ We are concerned with the endurant/perdurant dichotomy and its grammaticalized

Towards an Answer to Why 1

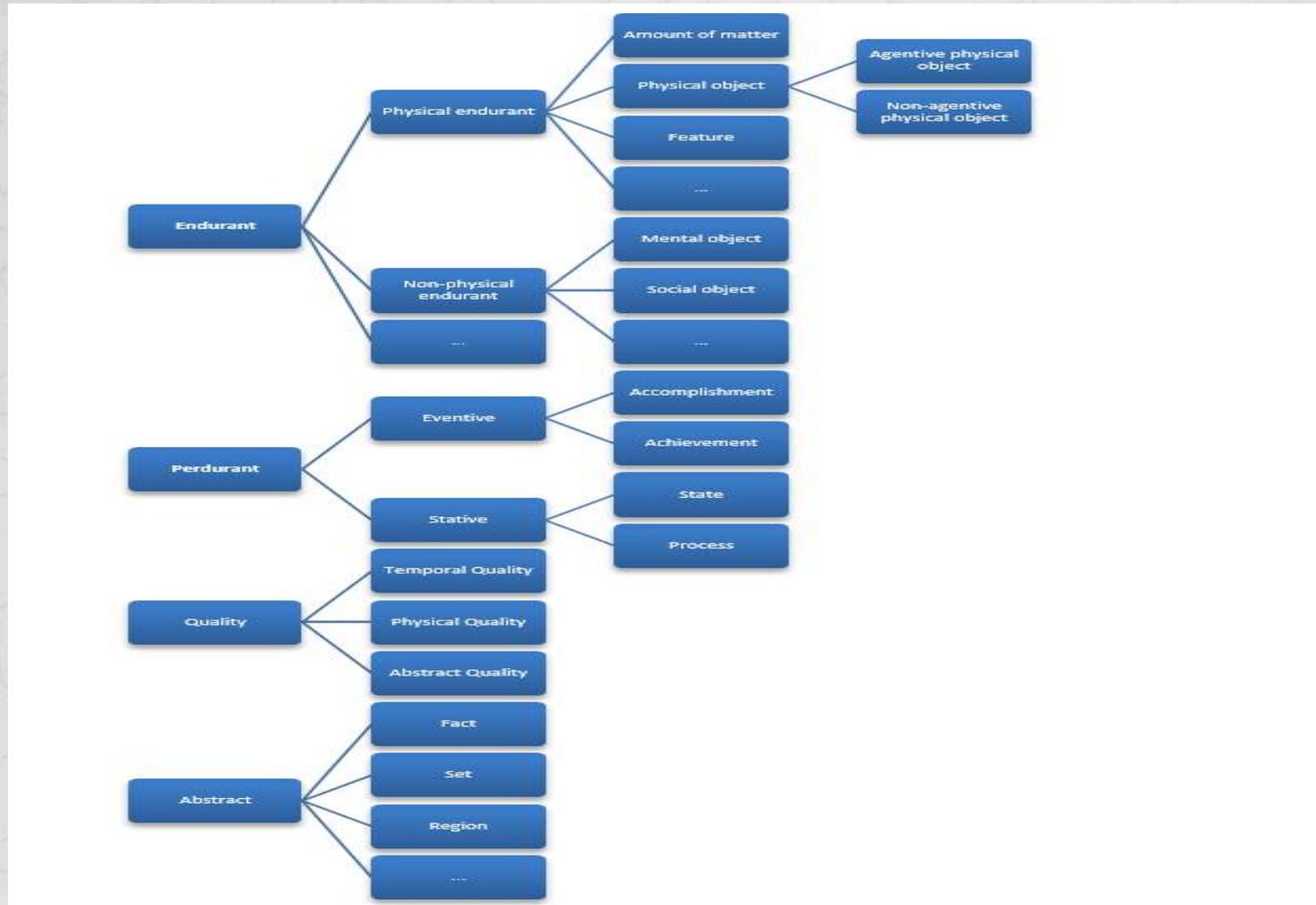
- ◆ A 10:10 flight taking off at 2:30...
 - ◆ The 12:30 taking off time of the perdurant property of the event; its value and hence its value) dependent on the specific time (e.g. January)
 - ◆ The 10:10 in the 10:10 flight of the perdurant property shared by all events belonging to this type. The 10:10 flight of the 'same' day, tomorrow, and the day after; regardless of when the flight actually takes off each day of the scheduled such. Being the 10:10 flights of the shared perdurant property of all such events or episodes.

Endurant / perdurant qualities

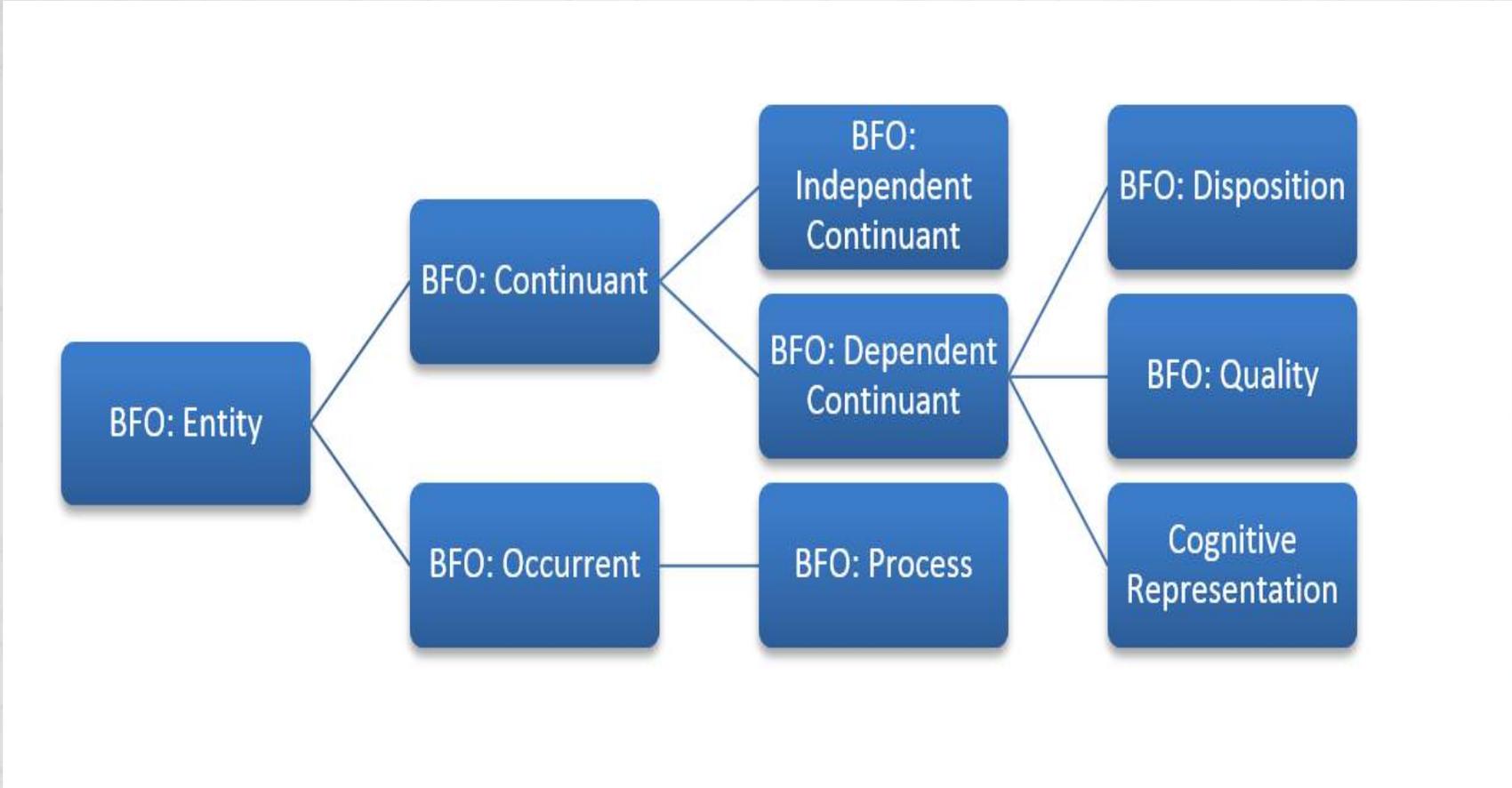
恆久性 / 趨變性

- ◆ An **endurant** is “(the concept of) an entity which has spatial components but is not dependent from a specific time frame of occurrence.” e.g. Y. R. Chao in 1955 and in 1968
 - ◆ A **perdurant** is “(the concept of) an entity which has a time element crucially associated with its meaning.” I.e. the occurring of the event... e.g. writing
- (Gernon and Smith 2004)
- ◆ A Perdurant/Occurrent ontology is SPAN ontology, where objects are give four (or higher) dimensional representation
 - ◆ An Endurant/Continuant ontology is SNAP ontology, where objects requires three dimensional representation
 - ◆ Because it is assumed that the goal of description does not vary by time

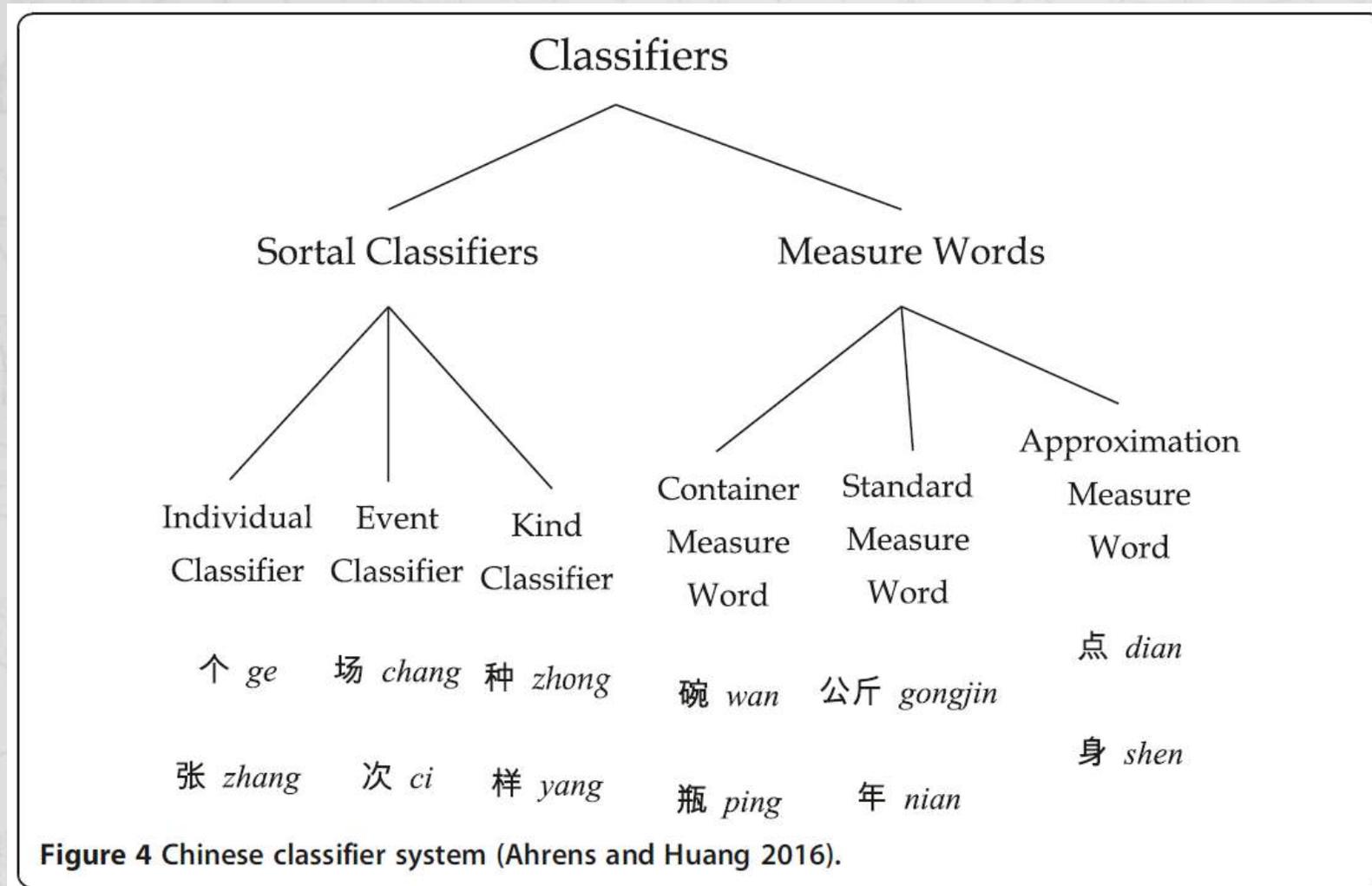
- Two alternatives incorporate the endurant/perdurant dichotomy in the ontology (figure of the OLCE upper ontology: entities)



- Two alternatives incorporate the enduring/perdurant dichotomy in the ontology (Figure 2. Basic Formal Ontology (BFO) Upper Ontology)



- ◆ The Chinese classifier system (Ahrens and Huang 2016) linguistically encodes the Durant/Perdurant contrast



Sortal Classifier Denotes Endurant Properties

◆ Individual Classifiers

◆ (1) 的的張破破爛爛的紙

的的張破破爛爛的紙
de1_zhang1_po4po4lan4lan4_de_zhi3

one_CL_tattered_DE_paper

的的張破破爛爛的紙
one piece 的的 tattered 的 paper'

的的張缺腿的椅子

的的張缺腿的椅子
de1_zhang1_que1tui3_de_yi3zhi

that_CL_leg-missing_DE_chair

的的張缺腿的椅子
that chair 的 with 的 missing leg'

Sortal Classifier Denotes Endurant Properties

◆ Event Classifiers

的(的) a. 的(的) 通 (未接) 電話

的(的) ang2_tong1_wei4jie1_dian4hua4
two_CL_unanswered_telephone

的(的) 的(的) two 的(的) (unanswered) 的(的) calls'

的(的) 的(的) 好幾陣雨

的(的) 的(的) hao3_ji3_zhen4_yu3

的(的) 的(的) pod_several_CL_rain

的(的) 的(的) quit 的(的) few 的(的) in 的(的) showers'

(Comp. 的(的) hierchia's 的(的) theory 的(的) that 的(的) gerunds 的(的) 的(的) names' 的(的) 的(的) activities)

Measure Words Denote Perdurant Properties

◆ Standard Measure Words

例8) 這一塊一公斤的肉，煮熟後只剩不到600公克

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例8) 這塊一公斤的肉，煮熟後只剩不到600公克

例9) 這一公斤(*的)肉，煮成了三道菜

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Linguistic expression of ontological notions

◆ When DE-insertion applies to sortal classifiers

的(的)大張(的)紙的1_da4_zhang1_de_zhi3的的sheet的的big的paper'
的(的)小張(的)紙的_xiao3_zhang1_de_zhi3的的sheet的的small的paper'
的(的)張大紙的1_da4_zhang1_de_zhi3的的sheet的的big的paper'
的(的)張小紙的_xiao3_zhang1_de_zhi3的的sheet的的small的paper'

的(的)花油 bai2hua1you2的from的hao的(68)
white_flower_oil的

的(的)白花的油 bai2hua1_de_you2
white_flower_DE_oil的

的(的)essential的的made from的的white的flower'

Linguistic expression of ontological notions

- ◆ **The correlation between DE-insertion and perdurant properties**

De-insertion is allowed only when the M selects perdurant properties and that in general, DE-insertion does not change the meaning of perdurant D-M compounds

- ◆ **Does DE-insertion mark time-variant property?**

1) The insertion of 的 *de* marks the preceding element as denoting perdurant properties.

[consistent with the upper ontology design of DOLCE]

2) The insertion of 的 *de* marks the shift to a SPAN (four-dimensional) ontological view, and hence underlines time-dependent properties.

[consistent with the treatment of continuant/ occurrent contrast of BFO]

Possible Answer to Why 3

- ◆ Being 的 patient 的 的 hospital 的 的 conventionalized/conceptualized 的 的 的 perdurant 的 property 的 e. 的 being 的 patient, 的 being 的 sick, 的 NOT 的 的 time-independent 的 property 的 的 person). 的 hence 的 的 presence 的 的 de0 的 的 required, 的 hence 醫院 的 病人

Speculations on Ontological Basis of Language Variations

Variations in Light verb selection in World Chinesees (Studies by LLT group, esp. Huang, Lin, and Jiang)

- ◆ 進行 ‘to proceed’ takes eventive nominals as objects, however,
 - ◆ In Mainland Mandarin, it takes only deverbal nouns, but NOT event nouns; i.e. 進行研究 research , 進行*議案/*議程 (meeting) discussion items/agenda
 - ◆ In Taiwan Mandarin, both are allowed
- ◆ **Both deverbal nouns and event nouns refer to SPAN ontology (i.e. 4 dimensional meaning with time)**
 - ◆ **Two variations differ in whether to allow the *bona fide* noun (i.e. event noun) to have perdurant meaning**

Emergence of Classifiers in Chinese

◆ Num 的 Measure 的 noun 的 Phrases 的 occur 的 after 的 nouns 的 Old 的 Chinese

◆ 陳文子有馬十乘 (Confucius 的 Analects)

陳文子有馬十乘 (Confucius 的 Analects) [He abandoned them to migrate from the state]

◆ 昔者吾先君中行穆子皮車十乘，不憂其薄也，憂德義之不足也。今主君有革車百乘，不憂德義之薄也，唯患車之不足也。(XinXu 新序)

陳文子有馬十乘 (Confucius 的 Analects) [He abandoned them to migrate from the state] [He abandoned them to migrate from the state]

◆ 乘 的 chariot 的 paired 的 with 的 horses; 的 and 的 similar 的 post-nominal 的 measure 的 words 的 are 的 conceptually 的 perdurants, 的 referring 的 to 的 specific 的 temporal-spatial 的 point 的 where 的 the 的 event 的 is 的 measured. 的 does 的 NOT 的 select 的 the 的 enduring/continuant.

Emergence of Classifiers in Chinese II

- ◆ Classifier system in Chinese emerged when Num Measure Noun phrase moved to pre-nominal position
 - ◆ But what motivated the change? They have very similar syntactic and quantifying functions.
 - ◆ Given Huang' (2015) ontological analysis of the Mandarin classifier system, the most salient change is the conceptual shift from the perdurant M to the enduring L.

Incorporation: VR and VO compounds in Chinese

- ◆ **Incorporated nouns, like nouns in other compounds, do not refer; they qualify, narrowing the scope of the host verb. - Mithun (1986)**
 - ◆ **Reduction of noun classes (Mithun 1986)**
 - ◆ **Coalescence of nouns and verbs (Mithun 1984)**
 - ◆ **Denominalization leads to incorporation (Jacques 2012)**
- ◆ **Incorporation causes nouns to conceptually shift from endurants to (dependents of) perdurants**

Emergence of Incorporated Compounds in Chinese

- ◆ **The emergence of VR Compounds in Chinese (Liu 2002)**
 - ◆ Northern and Southern Dynasties (CE 420-589)
 - ◆ Phrasal verb + complement become incorporated
 - ◆ VR compounds gradually acquire ability to take direct object over time, but at different pace for different verbs.
- ◆ **The emergence of VO Compounds in Chinese (PolyU LLT Team, esp. Jiang)**
 - ◆ Now (both in Mainland China and Taiwan)
 - ◆ Phrasal verb + objects become incorporated
 - ◆ VO compounds gradually acquire ability to take direct object over time, but at different pace for different verbs and for different Chinese varieties.
- ◆ **Conceptual shift of R/O losing endurant meaning**
- ◆ **To the extent of allowing the new perdurant entity to predicate a new class of endurant arguments**

VO Compound and Incorporation II

- ◆ Incorporation

- ◆ O's sing₁durant property, 的

- ◆ V-O's sequence's sing₁one dimension's ontology's (still SPAN, but having one less dimension's participants)

- ◆ Increasing's transitivity

- ◆ As VO becomes fully incorporate's strongly's perdurant's new predicate₀

- ◆ It acquires the ability to add another dimension's its SPAN's ontology's (e.g. new type's participants)

Case and Inflection Loss (in Middle English)

- ◆ Conceptual simplification of the enduring/occurrent ontology
 - ◆ SPAN view of the multi-dimensional (4+) ontology
 - ◆ Reduction of the case/inflection simplifies the ontological representation

Conclusion (Perhaps)

- ◆ +N/Nouny 的 presents 的 的 endurant/continuant 的 conceptual 的 perspective
- ◆ +V/Verby 的 presents 的 的 perdurant/occurrent 的 conceptual 的 perspective
- ◆ Language 的 variations 的 an 的 的 largely 的 attributed 的 to 的 的 endurant/perdurant 的 conceptual 的 shifts
 - ◆ A 的 conceptually 的 motivated 的 ontological 的 account 的 will 的 的 well 的 with 的 的 snowball 的 effect 的 predicted 的 的 lexical 的 diffusion 的 theory.

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Thank you for your attention

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