Macro- and Micro-variations and parametric theory: principles-and-parameters and minimalism C.-T. James Huang Summer 2010 Variation and change in parametric theory Macroparameters and microparameters: the case of Chinese. Analyticity and functional categories Summary I: Variation and change in parametric theory Variation, change and acquisition: the P&P view UG = Principles and Parameters Grammar acquisition = fixing parameter values Parameters are often macro-parameters: each parameter is typically associated with a clustering of variable properties: Null subject parameter (free inversion, no subject-ECP effects, etc. Head parameter (V-final, P-final, N-final, etc. Polysynthesis parameter (Baker 1996) (揘on-configurationality free word-order, heavy-head marking/incorporation, pro drop, etc. Nominal mapping parameter (Chierchia 1998) ((+) generalized bare argument, (+) generalized classifier system, (+) plural morphology, etc. The relativized X-bar parameter (Fukui) The (forced) agreement parameter (Kuroda, etc.) Wh-mv挟 parameter (derivational timing) The source of parametric variation: parametric change The source of parametric change: partial failure in reproducing exact adult grammar during acquisition language contact adult innovation Parametric theory in Minimalism Macroparameters and microparameters: Baker 1996, 2008, Kayne (2005, i.a.) Problems with macroparameters: Clustering often proves incomplete As stated, they entail too much UG (and goes against current thinking in view of the relatively rapid evolution of language, Chomsky 2008) Lexical parameterization hypothesis (Borer 1984, Fukui 1995, Chomsky 1995) or 揃orer-Chomsky Conjecture (Baker 2008) (microvariations and microparameters Problems with microparameters: There are indeed clusterings of properties that drastically reduce the number of actually occurring variations among languages FACT: both macro- and micro-parameters exist Tension between explanatory and descriptive adequacy Why and where do we have parameters in minimalism? Chomsky 2008: Most linguistic facts as we know them (universals as well as language particulars) represent the different modes of solving the externalization problem. 揑t might simply be a problem addressed by existing cognitive processes, in different ways, and at different times. II: Macro- and micro-parameters: the case of Chinese. Preamble: Fa-Yan Lu (601 AD) Qieyun Xu; Preface to Qieyun]): yin lun nan-bei shi-fei, gu-jin tong-sai for discuss south-north yes-no, past-present open-shut ↑ For the discussion of the yes-and-no of the south and the north, and the open-and-shut of the past and the preset. Macro-parametric properties of Modern Chinese (vs. English) Modern Chinese differs from English and others in exhibiting high analyticity over a full range of lexical and functional categories. Light verb constructions: da yu ↑ do fish├ da dianhua ↑ do phone├ da penti ↑ do sneeze├ Pseudo-incorporation (Massam 2002) a.k.a. ∟ phrasal compound⌐ : zhuo yu ↑ catch fish├ (to fish) chi fan ↑ eat rice├ (to eat) bo pi ↑ remove skin├ (to peel) Compound and phrasal accomplishments: da po ↑ cause to break├ Need overt classifiers for count nouns: san *(ben) shu ↑ 3 -*(classifier)-book├ ; no plural morphology (but 〃 men) Need overt localizers: zou-dao zhuozi *(pang) ↑ went to the table-*(side)├ Canonical ∟ Kaynean word order⌐ : Subject-Adjunct-Verb-Complement. (= 揤2 counting from the right) Wh-in-situ (instead of wh-movement) No forms equivalent to nobody, each other, etc. Adverbial vs. adjectival fast, all No determiner (but numeral one or determiner this, that) No coercion (e.g. begin the book) (Lin 2005) No (canonical) gapping, and more Note the clustering of these properties in the same language to the exclusion of them in, say, English. The properties (some of which having been attributed to some macroparameters) suggest a mega-, macro-parameter of anyliticity vs. synthesis. This clustering is macroparametric in nature. How are the macro-parametric properties of Chinese vs. (say) English treated in current parametric theoretic terms (subscribing to lexical parameterization)? Individual cases of the Chinese-English macro-parametric variations are captured as follows: Light verbs and pseudo-incorporation vs. denominalization English denominalization vP DP v v NP [DO] N fish The light verb v with elementary semantics of DO with no or insufficient phonetic content is [+uninterpretable, +strong]], which induces N-to-v movement, giving rise to denominalization. Modern Chinese: (a) light verb or (b) pseudo-incorporation vP DP v v NP (a) da 慸o N (b) zhuo 慶atch N yu 慺ish X In (a), the light verb da (lit. 慼it meaning DO) is [-interpretable, -strong]), hence no movement, no denominalization. (LVC [property (1a)] In (b), in the position we have zhuo 慶atch , which is [+interpretable, -strong]. No movement. (pseudo-incorporation construction [property (1b)] B: Classifiers vs. plurals: English: no overt classifiers (light nouns) [cf. Borer 2005, etc.] DP D NumP Num CLP 3 CL NP -es N book Chinese: overt classifiers blocking movement DP D NumP Num CLP 3 CL NP ben N shu X Similarly for other cases: C: Localizers: localizer = light noun PLACE Enlgish localizer PLACE (light noun) is null Chinese localizer is lexically non -null D: V-to-v, v-to-I, or I-to-C (Object shift Wh-movement Gapping (a la Johnson, Tang) Chinese has no canonical gapping Chinese has small gapping E: Adverbial vs. adjectival negation, manner, quantifier, determiner Not vs. no Fast All the Consequences: Chinese as Davidsonian language par excellance (with light verbs, light nouns, compounds and phrasal accomplishments spelling out the Davidsonian argument structure overtly). Chinese as a 慼ealthy language (lacking 慥iral formal elements that trigger overt movement) [cf. Uriagereka] Kaynean word order: Subject-adjunct-head-complement. These are properties of high analyticity, in sharp contrast to (poly)-synthesis. The clustering suggests macroparametric variations Yet an 揳nalytic-synthetic parameter would be at odds with lexical parameterization or the BCC Instead we see that various categories, acting on the effects of separate items, seem to conspire to give rise to a maximally general pattern of high analyticity (Summary: Chinese vs. English, relatively speaking, using Lu Fa-Yan抯 words: Chinese is ∟ no⌐ (not uninterpretable, not strong, not +EPP), and English is ∟ yes⌐ , with respect to the points compared. For English, movement traffic (head or XP) is relatively ∟ open⌐ and for Chinese, movement traffic is ∟ shut⌐ . Micro-variations among Modern Chinese dialects (Cantonese, Mandarin, Taiwanese) A. Classifier stranding: (Cheng & Sybesma 2005) Facts: yi ben shu 憃ne classifier book vs. [e] ben shu 慬e] classifier book Cantonese drops yi 憃ne before a classifier quite freely (subject, object, etc.) Mandarin drops yi 憃ne before a classifier only in postverbal position. Taiwanese SM does not drop yi at all. Analysis in minimalist style: Cantonese: [e] 憃ne is +F, +strong, allowing classifier raising CL-Num-D. Mandarin: [e] 憃ne is not +F, +strong, hence only inducing Agree, no Move. Taiwanese: Overt yi 憃ne is not empty [-F, -strong], blocking movement. DP D NumP Num CLP CL NP yi ben shu (Taiwanese: fully analytic) [e] ben shu (Mandarin, Agree, or Aff-Hop) [e[bun syu (Cantonese: CL-Num-D Move) Taiwanese > Mandarin > Cantonese B. Position of qu 慻o (Liu 2002, Tang 2006, Lamarre 2008): Facts: Cantonese: Zhangsan qu-le Beijing. Zhangsan went-to Beijing. Mandarin permits either (i) or (ii): (i) Zhangsan qu-le Beijing. Zhangsan went-to Beijing) (ii) Zhangsan dao Beijing qu-le. Zhangsan towards Beijing went) Qing Piaotongshi (a textbook teaching Chinese as a foreign language to Koreans during Ching Dynasty) allows only the pattern (ii) above: Zhangan dao Beijing qu-le. Zhangsan towards Beijing went) Analysis: The pattern (ii) is analytic, and (i) synthetic. VP V VP DP V dao Beijing qu (ii) analytic: Ching & Mod. Mandarin [e] Beijing qu (i) synthetic: Cantonese & Mod. Mandarin Ching Dynasty Mandarin > Modern Mandarin > Cantonese Taiwanese: behaves like Cantonese, unlike the preceding case. Cf. classifier stranding: Micro-variation. (Other micro-parametric variations: C: Verb-object word order preferences (Liu 2002, Tang 2006) D: Differences in resultative compounds and phrases (CHLT 1997 and Wang 2008) (Summary, dialectal variations: Cantonese > Mandarin > Taiwanese: Cantonese is 慪es and 憃pen with respect to classifier stranding, Taiwanese is 慛o and 憇hut , Mandarin in between. With respect to resultatives: Cantonese > Mandarin > Taiwanese With respect to 慻o : (Cantonese, Taiwanese) > Mandarin Macro-parametric change: the macro-history of Chinese syntax Macro-parametric properties of OC (500BC-200AD): fairly synthetic, over a full range of constructions: a. No light verb (denominalization): yu ↑ to fish├ b. No pseudo-incorporation: fan ↑ have rice├ c. No compound: synthetic accomplishments. po ↑ break├ d. No overt classifiers for count nouns (no need for ↑ light noun├) e. No need for overt localizers (no need for ↑ light noun├) Non-Kaynean word order: postverbal adjunct etc. Wh-movement Has canonical gapping qu ↑ go to├ from qu ↑ depart from├ And more . . . . Some examples: OC: shi > shi > shi ↑ feed > feed > food├ fan > fan >fan ↑ feed with rice, have rice, rice├ you yi mu jian Xin ji, fan Xin. there-was one woman see Xin hungry rice Xin ↑ A woman saw Xin in hunger, [so she] riced Xin.├ vP DP v├ v vP *s - DP v├ v NP *s- shi ↑ food├ fan rice├ Based on reconstruction by Mei (1973, 1978 and references), the causative and denominative prefixes *s- are +F, +strong that trigger the relevant movements. Head-to-head movement results in synthesis: feed > feed > food MC and MnC: fan chi fan rang ta chi fan ↑ rice, eat rice, let him eat rice├ vP DP v├ v vP rang ↑ let├ DP v├ v NP chi ↑ eat├ fan ↑ rice├ X X The light verb positions are lexically filled. (no movement. (Summary, OC (MC/MnC parametric change: OC was, relatively, 揧es and 揙pen MC was 揘o and 揝hut (peaking in analyticity) MnC has developed some mild degrees of synthetic in some dialects III: Analyticity and functional categories Analyticity Properties of high analyticity: Neo-Davidsonian language par excellance (with light verbs, light nouns, compounds and phrasal accomplishments spelling out the Davidsonian argument structure overtly). Relative freedom of uninterpretable, strong, EPP features. [A 慼ealthy language (lacking 慥iral elements that trigger movement) cf. Uriagereka] Kaynean word order: Subject-adjunct-head-complement. Functional categories: The nature of functional categories in a language of high analyticity W.r.t. the lexical projections: little v, little n, little a, little p Analytic: overt non-affixal light categories (verb 慸a , localizer, absolutive hen) Synthetic: affixal light categories or covert v, n, a, p which trigger head-movement or incorporation: DO, CAUSE, THING, POS, PLACE, NUMBER (cf. Kayne 2005+) W.r.t. the functional projections: C, T, D, TelicP, etc. Analytic: overt particles, classifiers, determiners and other items that agree, but do not attract. Synthetic: affixal, uninterpretable, etc. 慉nalytic vs. synthetic can be described in terms of: Lexical vs. clitic vs. affixal vs. zero-head +strong or not (Move vs. Agree) w.r.t. head [or overt vs. covert head-movement]. +EPP or not (XP-movement vs. Agree) [or overt vs. covert XP-movement]. Macro- and Micro-parameters The tension between macroparameters and microparameters The clustering suggests macroparameter variations. In fact, macroparameters may be even generalized to a meta-parametrer of analyticity vs. synthesis. Yet an 揳nalytic-synthetic parameter would be at odds with the lexical parameterization hypothesis Instead we see that various categories, acting on the effects of separate items, seem to conspire to give rise to a maximally general pattern of high analyticity Reconciling macro- and micro-parameters Holmberg and Roberts 2008: Macro-parameters as aggregates of micro-parameters with correlating values. Aggregates: each parameter is a micro-parameter that falls under the BBC, limiting variation to formal features of lexical items Correlating values: the microparameters acting in concert for markedness reason. Markedness: conservatism and economy in acquisition strategy, 揼eneralization of the input . For example: For a class of heads Hs, uStrong for H: uEPP for H[F:--] (v ({ [+EPP] / v[+EPP]; [-EPP] elsewhere } (cross-categorial head-complement word order patterns The origin of (high) analyticity, (poly)-synthesis, agglutinating: on the basis of some very general minimalist notions such as interpretability, EPP, strong, etc. (H&R 2008): F? (formal feature?) No yes STOP does F Agree? No yes STOP does F have an EPP feature? No Yes (head-initial) (head-final) Does F trigger Is F realized head-movement? by external Merge? No yes No Yes STOP polysynthesis STOP Agglutinating High analyticity Where are the parameters and schemata? H&R propose that they are among the 搕hird-factor properties : (H&R, pp. 000-000) UG does not even provide the parameter schemata. In essence, parameters reduce to the quantificational schema in ([51]) [=Q(ff (C) [P(f)]] in which UG contributes the elements quantified over (formal features), the restriction (grammatical categories) and the nuclear scope (predicates defining grammatical operations such as Agree, etc). The quantification relation itself is not given by UG, since we take it that generalized quantification the ability to compute relations among sets梚s an aspect of general human computational abilities not restricted to language. So even the basic schema for parameters results from an interaction of UG elements and general computation. The parameter schemata form networks defined by markedness relations. The markedness notions we have invoked include relative length of description, and generalization of the input (relevant for statements such as (38), which ultimately define macroparameters). Both rely on a general notion of computational conservatism, which again we can think of as a facet of computational efficiency. Again, then, the schemata arise from third-factor properties. IV. Summary remarks Modern Chinese exhibits rather neat patterns of high analyticity, and of change from synthesis to analyticity, over a range of constructions, including some not heretofore analyzed as properties of analyticity. High analyticity shows evidence for Davidsonian event structure and for lexical decompositon analysis involving silent heads. The observed variations and changes can be described in parametric terms using current theoretical apparatus, and attributed to differences in the 慸egree of uninterpretability . In historical terms, these may in turn be attributed to the degree of grammaticalization of given lexical items. Macro-parameters as aggregates of micro-parameters with correlating values as driven by economy and conservatism.