Rethinking Comparative Syntax. Part Three: Incorporation

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ReCoS thinking comparative syntax

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Outline

- more on DP-internal structure (Longobardi 2008, 2010)
- polysynthesis and noun incorporation (Baker 1996, Branigan 2014)
- syntactic analyticity (Huang 2013)
- types of parameter and diachronic implications
- a case study: conditional inversion in the history of English

I: More on DP

- We saw in Part Two that null-argument phenomena centrally involve the DP … [$_{NP}$ x] relation
- For DPs imbued with [Pers] this is a binding relation: PERSx[P(x))]

(where P is the <e, t> denotation of the predicate)

- More generally, all nominals contain a variable, bound in different ways

Longobardi's (2008, 2010) Core Generalization

N-to-D chain/CHAIN iff reference to individuals (where "individuals" includes constants, variables and kinds)

Parameter: certain languages refer to individuals by overtly associating the lexical content of nouns to Person, while others form a CHAIN.

Consequences

1a. Romance proper names must raise to D (*Gianni mio*)

b. English proper names cannot raise to D (**John my*)

2. English bare nouns may be kind-referential names in all the environments where Italian bare nouns fail to achieve it (notably subject positions: *Milk is good* vs **Latte e' buono*).

3. English bare nouns, unlike Italian ones, have "ECP-free" distribution (no subject-object asymmetry; Longobardi 1994)

More consequences (Longobardi 2010)

A single parameter unifies intricate differences in the behaviour of proper names, kind names, genitives, definite and indefinite descriptions in a large number of languages:

- syntax of proper nouns
- Distribution of bare nouns
- Semantics of bare nouns
- syntax of definiteness inheritance (construct state, Saxon genitive)
- syntax of definite enclitics, etc.

Questions

a. How, exactly, do the other languages differ?

b. Why is precisely the D position involved in the denotation of individuals?

Denotation hypothesis:

Individuals are denoted through the Person feature.

Typology

Strong person languages: Italian, Spanish, Romanian, Greek, Bulgarian, Arabic ..

Weak person languages: English, Norwegian, Icelandic, Welsh (?)

No-person languages: East Asian

The DP-typology and null arguments

- strong person languages are consistent NSLs
- weak-person languages are partial or non-NSLs
- no-person languages are radical NSLs

Clear support for the relevance of D for NSL typology (as proposed in Lecture Two)

The importance of phi-features

- languages with grammaticalized phi-features associate referential and operator expressions with Person overtly by Move (strong person) or “covertly” by Agree (weak person): the denotation hypothesis applies in narrow syntax
- languages without grammaticalized phi-features may associate person to the relevant expressions freely: the denotation hypothesis applies in conceptual or pragmatic representations (Longobardi 2008)
- or the functional structure in DP is realised in a different way (classifiers)

II: Polysynthesis

Subject and object agreement in Mohawk

1. Ye-sa-núhwe’-s

   FsS-2sO-like-HAB

   “She likes you.”

2. Ya-núhwe’-s

   MsS/2sO-like-HAB

   “He likes you.” (Baker 1996:31)

Noun Incorporation in Mohawk

1. Shako-núhwe’-s (ne owirá’a)

   MsS/3pO-like-HAB (NE baby)

   “He likes them (babies).”

2. Ra-wir-a-núhwe’-s.

   MsS-baby-Ø-like-HAB

   “He likes babies.”

Polysynthesis and strong person

Polysynthetic languages resemble strong-person/consistent NSLs with two differences:

(i) no overt Ds (or D is realised in Mohawk as the *–a* suffix seen in (1) of the previous slide; Baker 1996:247);

(ii) no Case on DP.

Consequences

i. No DPs in argument positions (Activity, cf. Saito 2009): basic "pronominal-argument" property, shown by free word order, no D-quantifiers (no LF-only variables), no anaphors (these must be in A-positions), Baker (1996, Chapter 2).

ii. D (i.e. phi-sets) always incorporate

iii. Given N-to-D movement, noun-incorporation follows automatically if DP appears in an argument position.

Restrictions on NI

The Basic Generalisation: only direct objects incorporate:

1. Waʼ-ka-wir-ʌʼ-neʼ.

   FACT-NsS-baby-fall-PUNC

   “The baby fell.”

2. *Waʼ-t-ka-wir-ahsʌʼtho-ʼ.

   FACT-DUP-NsS-baby-cry-PUNC

   “The baby cried.”

Baker (1996:295ff.)

- No incorporation of Indirect Objects/obliques: null Ps block it
- No incorporation of subjects: Baker's account relies on distinction between Form Chain and Move, not really satisfactory
- A possible alternative: incorporating nouns lose agreement marking (see above); is subject-agreement obligatory?
- (is there a link between incorporation and differential object-marking?)

Properties deriving from polysynthesis (Baker's Table 11.1, 1996:498-9)

- Syntactic NI
- Obligatory object agreement
- Free pro-drop
- Free word order
- No NP reflexive
- No true quantifiers
- No true determiners
- CP arguments only if nominal (and six more, harder to connect to our adaptation of Longobardi's system)

Polysynthetic languages covered

- Mohawk (Iroquoian)
- Nahuatl (Uto-Aztecan)
- Tanoan
- Gunwinjguan (Australian)
- Wichita (Caddoan)
- Chuckchee (Paleo-Siberian)
- Ainu (isolate)

Pronominal-argument languages with no NI

- Also known as head-marking non-configurational languages
- Lakhota, Slave, Choctaw, Navajo, etc.
- Object agreement is always obligatory?
- (non-differential object marking??)

Multiple head-movement (Branigan 2014)

- Another way to get the effects of polysynthesis, and a possible macroparameter

In the structure (where A-E are all heads):

[A [B [C [D E]]]] →

[$_A$ B [$_A$ C [$_A$ D A]]] [t [t [t E]]]]

Here A is a derived complex head with the original order of moved heads preserved (vs roll-up of heads, inverting order)

Innuaimûn (formerly Montagnais)

Pûn tshî ueueshtâ-pan n-ûtâpân.

Paul CAN repair-3/PAST 1-car

“Paul can repair my car.”

[$_{TP}$ [$_{T}$ pan] [$_{Aux}$ tshî] [$_{DP}$ Pûn] [$_{v}$ –tâ] [$_{VP}$ [$_{V}$ ueuesh] n-ûtâpân]]. →

[$_{T}$ [$_{Aux}$ tshî] [$_{v}$ [$_{V}$ ueuesh] [$_{v}$ –tâ]] [$_{T}$ pan]] ….

- Multiple head-movement of v and then Aux to T

Multiple head-movement

- Unproblematic if we assume
- (i) no Head Movement Constraint (Roberts 2010)
- (ii) featural relativized minimality
- (iii) cyclicity (standard)

T Aux v V → [$_T$ Aux [$_T$ [$_v$ V+v] T]]

i. V-to-v (as usual)
ii. v+V to T, skipping Aux (allowed if Aux and v are featurally distinct)
iii. Aux to T

Starke (2001)

T[F, G] Aux[F] v[F, G]

-- here Aux doesn't intervene between v and T

More concretely:

T[T, V, M] Aux[V, M] v[T, V]

(NB need to differentiate Aux from v in English, where v can't raise to T but Aux can)

Branigan's Macroparameter

- Branigan shows that Innuaimûn has multiple attraction by T, Fin, v, p and n.
- **The Algonquian Macroparameter (AMP):**

For all functional categories F, F attracts multiple heads

- Preferable to:

Fin attracts multiple heads;

T attracts multiple heads;

v attracts multiple heads; etc.

Stability of macroparameters

- Algonquian/Algic estimated at 2000-3000 years old, spoken across North America (counting now-extinct Yurok and Wiyot on the West Coast)

"[P]opulations in different regions have shared areal contact with very different types of other languages, from the Salish languages in the northwest, to Inuktutut in the north and Siouan and Iroquoian in large areas in the middle. In short, groups of Algonquian speakers have .. been dispersed for a very long time" (Branigan 2014:22).

“This history is reflected in numerous ways .. There are lexical differences between all Algonquian languages .. There are phonological differences .. There are also morphological differences, oftebn involving inflectional morphology.

It is therefore remarkable, given this history, that *all* Algonquian languages appear to make use of multiple head-movement in essentially identical ways” (ibid, emphasis original).

“The robust, long-term stability of multiple head-movement across categories in Algonquian grammars needs to follow from something .. At the very least we might expect that a macroparameter setting might resist being affected by the smaller scale changes in the primary linguistic data (PLD) which should lead to resetting of a single microparameter” (ibid, p. 23).

Acquiring macroparametric settings

“The AMP provides a very general statement which lumps all functional categories together with respect to a specific formal property. It fails to treat the distinction between T and v, for example, as significant. One obvious reason why the AMP might not recognise a categorial difference is that the LAD might not yet have established what the important categorial differences are at this stage in the acquisition process” (30)

“the AMP emerges from innocence, not knowledge” (ibid)

"the fact that the multiple-attraction parameter is *not* fragmented … should play a role both in ensuring the frequency of such trigger data and **in minimising the opportunities for language change in the long run**" (31, emphasis mine).

- ***Macroparameters are diachronically very stable.***

Branigan and Baker

Here we won't choose between the approaches as:

(i) it's not clear they're exclusive/contradictory

(ii) my ignorance of the relevant languages

(iii) both accounts agree that massive head-movement is key to understanding polysynthesis

(but NB Baker has the clearer account of null arguments).

Conclusion on polysynthesis

- A (the?) extreme case of strong-person/consistent NSL, with no Case on DP
- Given defective goals, this leads to massive (and perhaps multiple) head-movement
- This is the ALL option for head-movement: Ds (and more, according to Branigan) are defective goals
- Two questions:

(i) What does the NO option look like? (ii) what are the features in the extended projection of V relevant to (non-)incorporation?

III: Syntactic Analyticity

Huang (2013)

Modern Mandarin shows the following in v/VP:

- Highly productive light verbs
- Pseudo noun-incorporation
- Compound verbs or phrasal accomplishments
- Verbal atelicity
- Absence of verbal coercion

Light verbs

da yu (hit fish) “fish”

da penti “sneeze”

da hu “snore”

da haqian “yawn”

da dianhua “phone”

da zi “type”

Pseudo Noun Incorporation

"the use of a verb-object *phrases* denoting actions that are otherwise expressed by simplex verbs in a more synthetic language"

bu yu (catch fish) "fish"; *bo pi* (remove peel) "peel"; *zuo meng* (make dream) "dream"; *kai wanxiao* (make joke) "joke"

chi fan (eat rice) "eat"; *he jiu* (drink wine) "drink"; *kan shu* (read books) "read"; *chang ge* (sing song) "sing"; *tiao wu* (jump dance) "dance"

Lack of simple accomplishment verbs

"English abounds in simplex predicates that express completed events or accomplishments, whereas Chinese typically resorts to complex expressions"

1. chuangzi po-le

   window break-PERF

   "the window broke"

2. *Zhangsan po-le chuangzi

   Zhangsan break-PERF window

3. Zhangsan da-po/nong-po/gao-po-le chuangzi.

Zh. hit-break/make-break/make-break-PERF window

“Zhangsan broke the window.”

4. Zhangsan ti-po/tui-po/ya-po/qiao-po-le chuangzi

Zh. kick-break/push-break/crush-break/knock-break-PERF window

“Zhangsan kicked/pushed/crushed/knocked the window broken.”

Atelicity

1. #John killed Bill several times, but Bill did not die.
2. Zhangsan sha-le Lisi haoji ci, dan Lisi dou mei si.

   Zhangsan kill-PERF Lisi several time, but Lisi all not die

   (Tai 1984)
3. John wrote the letter in 30 minutes.
4. Zhangsan zai 30 fenzhong nei, jiu xie-*(wan)-le nei-feng xin.

   Zh. at 30 minute in, then write-(finish)-PERF that-CL letter

“Coercion” (Pustejovsky 1995)

1. John began (reading/writing/editing) a book.
2. *Zhangsan kaishi yi-ben shu.

   Zh. begin one-CL book
3. Zhangsan kaishi kan/xie/bian yi-ben shu.

   Zh. begin read/write/edit one-CL book

   “Zhangsan began to read/write/edit a book.”

Analyticity across categories

- numeral classifier for count nouns
- localizer for locational nouns
- discontinuous prepositions
- overt positive degree marker in APs (*hen*)

Classifiers

yi ben shu “one CL book”

liang zhi bi “two CL pens”

wu pi ma “five CL horses”

ershi-wu ge xuesheng “25 CL students”

Localizers

1a. This idea came from John.

b. Zhe-ge zhuyi cong Zhangsan-*(nar) lai de.

this-CL idea from Zh.-there come Prt

2a. Bill stood at the table.

b. Lisi zhan zai zhuozi-*(pang/shang/xia/hou/qian).

L. stand at table-side/top/under/back/front.

“Discontinuous” Ps

“By comparison with certain English prepositions, such as *beside*, *above*, *in*, etc., Chinese employs a discontinuous (hence analytic) strategy with a pre preposition *zai* “at”, followed by a corresponding localizer or location noun: *zai .. pang* “at X’s side”, *zai .. shang* “at X’s top”, etc.

(Huang 2013:10)

“It is useful to note that, while these distinguishing properties of Chinese are well-known, they have, in the main, been mentioned as if they are independent, unrelated features of the language… The clustering of these properties makes it clear that Modern Chinese is consistently more analytic than English, with respect to the structure of every lexical category” (ibid).

Huang's Proposals I

English: [$_{VP}$ [$_{V}$ **DO** [$_{NP}$ **phone/fish/sneeze..]]]**

- Incorporation of N to V (Hale & Keyser 1993, 2002)

Chinese: [$_{VP}$ [$_{V}$ **da** [$_{NP}$ **dianhua/yu/penti …]]]**

- incorporation blocked by presence of light verb *da* in v
- same in accomplishments: English V can incorporate to null CAUSE, in Chinese CAUSE is realised as *da/nong/gao* blocking incorporation.

→ **Analyticity arises from lack of incorporation**

Huang's proposals II

English: [$_{divP}$ [$_{div}$ e] [$_{NP}$ book]]

- Incorporation of N into div (see Borer 2005; roughly equivalent to Num or n)

Chinese: [$_{divP}$ [$_{div}$ ben] [$_{NP}$ shu]]

- presence of the classifier in div blocks N-incorporation

→ **Analyticity arises from lack of incorporation**

Wh-movement and wh-operators

Tsai (1994) (cf. also Katz and Postal 1964):

- English *who, what, where* etc: “each of these items is then lexically a combination of a noun stem and a quantificational operator”: N-to-Op in the syntax?
- “Chinese wh-phrases are ‘indeterminate’ .. a wh-phrase is interrogative in Chinese only in the environment of a c-commanding question operator (or the particle *ne*), universal in the environment of *dou*, existential in a non-veridical environment, etc.” (Huang 2013:14)

Proposal

English: $[_{QP}\ [_{Q}$ wh] … N]

- N-to-Q incorporation gives *who*, etc.

Chinese: $[_{QP}$ Q … N]

- no incorporation in QP; Q needs to be "licensed" (probably by a version of Agree) by a higher, c-commanding operator

→ No wh-movement to SpecCP as this destroys the licensing configuration (like NPIs, not reconstructible)

Negative quantifiers

1a. John did not see anybody.

b. John saw nobody.

2a. Zhangsan mei you kanjian renhe ren.

Zh. not have see any person

b. *Zhangsan kanjian-le meiyou ren.

Zh. see-PERF no person

“No” formed by neg-incorporation? (Klima 1964, Roberts 2010:220).

Reciprocals

1a. They each criticized the other(s).

b. They criticized each other.

2a. Tamen ge piping-le duifang.

they each criticize-PERF other

b. *Tamen piping-le bici.

they criticize-PERF each-other

- DP-internal *each*-movement in English?

Generalizations

- General lack of vP-internal and DP-internal incorporation in Chinese
- Huang (2005): “the other end of the parameter”?
- The NO (or nearly NO) option for the incorporation macro-parameter
- And NB link to radical prodrop, given lack of N-to-D movement (on grammaticalised Person, see below).

Clause-level analyticity

- No v/V-movement to T at all, not even of aux (vs English):

1. Zhangsan bu xihuan Lisi de piping.
   Zh. not like Lisi DE criticism
2. Zhangsan bu neng lai kan ni.
   Zh. not can come see you

V-to-v (aspectual *le*)

Zhangsan [$_{vP}$ song-le [$_{VP}$ Lisi [$_{v'}$ (V) liang-ben xiaoshuo]]]

Zh. give-PERF Lisi two-CL novel

“Zhangsan gave Lisi two novels.”

- V incorporates to aspectual particle *le* in v

“Kaynean word order par excellence”

Subject – Adjunct – Verb – Complement

- Huang (1982): Postverbal Structure Constraint (PSC): at most one postverbal complement
- Very little low V(P)-movement (except to adjoin to *le*, see above)

Gapping

1. John eats rice, and Bill spaghetti.
2. *Zhangsan chi fan, Lisi mian.

   Zh. eat rice, L. noodles

- If gapping is ATB V-movement from a coordinated v/VP (Johnson 2009), this follows from general lack of V-movement in Chinese
- Clear prediction for pseudogapping

Generalizations

1. wh-in-situ
2. (discontinuous *what-the-hell* constructions)
3. absence of negative quantifiers and reciprocals
4. Kaynean word order
5. absence of canonical gapping

Analytic modification

1a. Jennifer types fast, Dorothy drives fast, etc.

b. Jennifer is a fast typist, Dorothy is a fast driver, etc.

2a. Zhangsan shi yi-ge (da zi) da-de hen kuai de daziyuan.

Zh. be one-CL (type) type very fast DE typist

“Zhangsan is a typist who types very fast.”

b. *Zhangsan shi yi-ge hen kuai de daziyuan.

Zh. be one-CL very fast DE typist.

1. Jennifer is a beautiful singer.
   - Ambiguous: Jennifer is beautiful and a singer, or sings beautifully (see Cinque 2010)
2. Amei shi yi-ge hen piaolang de geshou.
   Amei be one-CL very beautiful DE singer
   "Amei is a singer who is beautiful."
3. Amei shi yi-ge chang-de hen piaolang de geshou.
   Amei be one-CL sing very beautifully DE singer
   "Amei is a singer who sings beautifully."

Larson (1998): event variables in nouns

singer/driver = λe,λx [sing/drive(e) & Agent (e,x)]

beautiful/fast predicated of e or x in English.

[$_N$ -er [$_V$ sing/drive]]

- A predicated of N or V; V incorporates to N
- Chinese has no incorporation, therefore no ambiguity

Analysis: DP (extended projection of N)

- As for radical NSLs (although a number of important differences in distribution and interpretation of null arguments compared to Japanese: see Li 2014)
- No grammaticalised [Person] or other D/Num/Q features → no N-movement
- Classifiers act as binders of [$_{NP}$ x]?
- NB possible relevance of the Nominal Mapping Parameter again (Li suggests that Chinese has D but Japanese doesn't).

Analysis: TP/vP/VP (extended projection of V)

- The analogous analysis to that given for DPs suggests itself
- Suppose all vPs contain a Davidsonian event variable which must be bound. This can be achieved by:
- (i) V-movement to T, as in French (Pollock 1989)
- (ii) Agree with T/Aux, as in English (NB “affix-hopping”)

(i) is “strong tense”: V-movement, “rich” tense morphology (Biberauer & Roberts 2010), poor aux

(ii) is “weak tense”: no V-movement (above v), “poor” tense morphology, rich aux

Extending the analysis

Tense is to [$_{vP}$ e] as Person to [$_{NP}$ x]:

TP-Denotation hypothesis:

Events are denoted through the Tense feature.

(see Higginbotham 1985, Pollock 1989, Hinzen & Sheehan 2013 for similar ideas)

Types of T-V relations

Strong tense: French/Romance (NB Schifano 2014 on important (micro-) differences, left aside here)

Weak tense: English, various creoles

No tense: Chinese. Here the "extended auxiliary system"/ serial-verb constructions/verbal compounds license [$_{VP}$ e]: cf. Hu (2014) on "verbal classifiers", analogous to nominal classifiers.

Further cross-linguistic questions

- **Germanic verb-second?** Following Chomsky (2008), strong tense in C (features withheld from T: Ouali 2008, Biberauer & Roberts 2010);
- **VSO?** Biberauer & Roberts (2010): two kinds: (i) Celtic/Semitic is strong-tense with V-to-T and subjects low (see lecture 4); (ii) Austronesian/Mayan is v/VP-fronting with optional object-shift – weak tense with VP-fronting (cf non-NSLs, e.g. English);
- **Japanese/Korean:** are they analytic in the clause too, with XP-roll-up creating agglutinating verb-morphology (Julien 2002)?

A technical question

DP and CP structures:

D[iPers, uNum, uN] .. Num[iNum, uN] .. n[uN] .. [NP x]

C[iT, uV] … T[uT, uV] .. V[uV] … [VP e]

(structure of C leaves aside C-T inheritance)

- why don't we always have N/V-incorporation, as N/V will always be defective goals, even if Person/Tense are absent?
- Two possible answers: no-X languages lack categorical features N/V on functional heads OR stipulate that defective goals are only defined in relation to phi/Tense.

Back to Chinese

Huang's analyticity macroparameter: (almost) NO incorporation in DP/vP/CP.

- This derives the properties listed above, an impressive cluster
- Could apply to other East Asian languages?

"Not all languages exhibit consistent analyticity or synthesis across categories. For example, … many analytic languages of Africa (Ewe, Yoruba, etc.) make heavy use of light verbs and pseudo-incorporation, but not of classifiers of the kind familiar from Chinese" (Huang 2013, note 7).

This is exactly what we expect, given the NO > ALL > SOME approach.

IV: Types of parameter and syntactic change

Preliminaries: syntactic change and parameter change

- (A population of) language acquirers converge on a grammatical system which differs in at least one parameter value from the system internalised by the speakers whose linguistic behaviour provides the input to those acquirers (cf. Lightfoot (1979, 1991, 1999)).
- reanalysis of Primary Linguistic Data (PLD) in language acquisition may lead to resetting parameter values of the underlying grammar

Examples

a. change of “head parameter” (V follows its complement > V precedes its complement)/loss of leftward-movement of complement(s): Middle English, Latin > Romance (and see below);

b. T gains/loses ability to “license *pro*,” (strong person > weak person?): French, Northern Italian dialects;

c. T loses the ability to attract a lexical verb (strong tense > weak tense?): Early Modern English

Acquisition and change

a. Convergent acquisition: for every $P_{1\ldots n,}$ the value $v_{1\ldots m}$ of P_i in the acquirers' grammar converges on that of P_i in the grammar underlying the PLD;

b. Syntactic change: at least one P in $P_{1\ldots n}$ has value v_i in the acquirers' grammar and value $v_{j\neq i}$ in the grammar underlying the PLD.

Inertia

- Most of the time, most parameter values don't change.

The Inertia Principle:

Things stay as they are unless acted on by an outside force or decay. (Keenan (2002:2))

"syntactic change should not arise, unless it can be shown to be *caused*"

(Longobardi 2001:278, emphasis his)

Questions

- which parameters change and when?
- Are certain parameters more amenable to change than others?
- If so, what can we learn about parameters more generally from these changes?
- the cases where a given parameter does **not** change can be as revealing as those where it does.

Highly stable parameter settings

a. Multiple Incorporation in the Algonquian languages (Branigan 2014, see above);

b. Harmonic head-final order in Dravidian (Steever 1998:31), and Japanese/Korean;

c. “Radical pro-drop” in Chinese and Japanese.

Harmonic head-final orders

- Proto-Dravidian is dated by Seever (1998) to 4000BC, i.e. 6000 years ago, and is thought to have been OV (as almost all the attested Dravidian languages are, except for one or two in heavy contact with Indo-Aryan languages).
- the oldest texts in Japanese date from around 700-800AD, and so are over 1000 years old, and are consistently head-final

Old Korean

A Silla stele, *Imsin sŏgi sŏk,* from 522 or 612:

“In this text, all the Chinese characters are used in their original, Chinese meanings, but the order in which they are put together is completely different from that of Classical Chinese. The syntax is almost purely Korean. For example, instead of the Chinese construction “from now”, the order of the two characters is reversed, Korean-style .. Sentences end in verbs” (Lee & Ramsey 2011:55).

Radical pro-drop

- Chinese has shown radical pro-drop since at least the Tang dynasty (850CE), and Japanese throughout its recorded history
- Korean: “ellipsis of elements understood from context, a process as common then [in Middle Korean, IR] as it is today, was generally preferred to pronominlization. Such typological features have characterised Korean at all historically attested stages” (Lee & Ramsey 2011:228).

Macroparameters are diachronicallty stable

Definition of a macroparameter (Biberauer & Roberts 2013, 2014):

For a given value v_i of a parametrically variant feature F, all functional heads of the relevant type share v_i.

Relevant type for head-directionality, all heads; for radical pro-drop, all probes; for polysynthesis, all incorporation triggers (i.e. all probes).

We observe then three cases, each independently thought to be macroparameters, which are conserved for millennia.

Mesoparameters

Definition of a mesoparameter:

For a given value v_i of a parametrically variant feature F:

Mesoparameters: all functional heads of a given naturally definable class, e.g. [+V], share v_i.

Strong/weak person (DP); strong/weak tense (CP/TP)

Mesoparameters concern entire syntactic categories and, as such, are “smaller” than macroparameters (which concern all possible categories), but “larger” than microparameters (which affect subclasses of lexical items).

NB most Romance has strong person AND strong Tense, suggesting a macroparameter, but cf. French and non-English Germanic (both strong tense, weak person).

Micro- and nano-parameters

Microparameters: a small subclass of functional heads (e.g. modal auxiliaries, pronouns) shows v_i;

Nanoparameters: one or more individual lexical items is/are specified for v_i.

V: A case study: Conditional Inversion in the history of English

Inversion (T-to-C movement)

Mesoparameter: “full” V2 (all non-Modern English Germanic)

Microparameter: “residual” V2 (i.e. interrogatives, conditionals, optatives)

Nanoparameter: contemporary English conditional and optative inversion

(Biberauer & Roberts 2014)

Conditional inversion in contemporary English

a. Had I been rich, everything would have been ok.

b. Should he do that, everything will be ok.

c. *Did I do that, everything would be ok.

d. ?Were I/he to do that, ...

e. *Were I rich, ...

f. If I were rich, ...

(Pesetsky 1989, Embick & Iatridou 1994, Mittwoch, Huddleston & Collins 2002:753)

Contracted negation in CI

a. *Hadn't I done that, everything would have been fine.

b. Had I not done that, everything would have been fine.

c. If I hadn't done that, everything would have been fine.

The restrictions are very recent

My dear friend, did I want your aid I would accept it. (1840)

And could I read yours [face], I'm sure I should see. (1864)

And were she a little less giddy than she is ... (Dickens 1843-4)

See Denison (1998:298- 300), whose Table 3.11 indicates that the productive option died out between 1850 and 1900.

Singlish (basolectal Singapore English)

With the exception of questions using BE, interrogatives in this variety do not involve SAI:

a. **Is** it?

b. **Are** you sick?

c. Go where?

d. Why you so stupid?

e. How to fix?

Singlish II

- Questions are also very commonly nuanced via a system of clause-final particles:

Q: Is it hard?

A: Very hard **ah**. (neutral particle)

Q: Isn't it hard?

A: Very hard **hor**.

Types of change

V2 is a good candidate for a mesoparameter

SAI is a microparameter

Break-up of SAI shows nano-parametric effects

Eventual loss of inversion (happened in Singlish and other varieties) eliminates the relevant features and parameters altogether and thereby effects a major simplification.

Types of change and types of parameter

a. **Macroparameters**: extremely stable over millennia, salient in PLD and hard to change;

b. **Mesoparameters**: fairly stable (up to about the level of Dryer's 1992 genera); change under heavy contact influence;

c. **Microparameters**: change quickly and endogenously; "cycles" of grammaticalisation

d. **Nanoparameters**: highly unstable, will disappear through analogy unless frequent in PLD.

Macroparametric change and Indo-European

Word-order change can observed in every branch of IE for which we have records:

Germanic (NGmc and English: OV >VO); **Latin/Romance** OV > VO; **Greek** (Homeric > Classical OV > VO; Taylor 1990); **Celtic** (Continental Celtic was probably OV; insular all VSO (Russell 1995)); **Indic** (loose > rigid OV, presumably under Dravidian influence); **Iranian** (OV > VO reversed in Medieval period under Turkic influence, giving numerous mixed orders); **Slavonic** (some evidence for OV > VO, Pancheva p.c.)
→ So of course the macroparameter for word order can change.

Some syntactic properties of older IE languages (Latin, Greek, Sanskrit, etc)

a. OV with “leaking”

b. 2nd-position effects

c. initial relative pronouns

d. argument-fronting to topic and focus positions in the left-periphery

Causes of change

Initial Cs, on analogy with relatives (Kiparsky 1995), may have destabilised the earlier harmonic system, so here grammaticalisation (of earlier nominal elements) may be at work, and NB the role of Final Over Final Constraint (Biberauer, Holmberg & Roberts 2014, Sheehan 2013): initial complementisers contradict the macro-head-final parameter.

Conclusion

Not all parameters are diachronically equal; and these inequalities can tell us something important about variation generally. Once again, language change gives us an important window on the nature of language.

General conclusions

Three macro-parameters:

- Head-initiality/finality
- Strong vs weak vs no Person
- Strong vs weak vs no Tense

(NB Analyticity is entailed by no Person/Tense; radical prodrop is entailed by no Person)

Highly complex and intricate connections, with hierarchies for Person and Tense.

A final point

Is Tense necessary for event-licensing? Is there a no-choice parameter here, as with Person?

Or is Tense just one way of “anchoring” clauses? See Ritter & Wiltschko (2009), Wiltschko (2014).