LUND UNIVERSITY

Thoughts on cartography and universality

Sigurðsson, Halldor Armann

LUND UNIVERSITY

PO Box 117
221 00 Lund
+46 46-222 00 00

Thoughts on Cartography and Universality

Halldór Ármann Sigurðsson
Lund University

In The fine structure of the left periphery, Lugi Rizzi (1997) famously 'opened up' the left periphery of clausal structure, claiming that C splits into at least Force, Top*, Foc, and Fin. Many reasearchers have since embraced this idea and argued that the C-system must be even further expanded. Thus, in Sigurðsson 2004, 2010 and related work it is argued that the C-domain contains 'speaker' and 'hearer' categories; that is, the logophoric agent and the logophoric patient features, Λ_A and Λ_P, respectively.[1] In addition, I have claimed that Fin splits into two separate (but commonly indistinguishable) head features, a temporal one and a locational one; that is, Speech Tense and Speech Location, T_S and L_S.[2]

The T-domain also splits into atomic elements, including T, Mood (M), Voice, and a number of *phi*-nodes (Subject Person, Object Person, Subject Number, etc., call them simply PhiS and PhiO for expository ease). That is, abstracting away from Focus, the regular clausal cartography above the v-domain in languages like, say, Italian and Icelandic, minimally contains the elements in (1).[3]

(1) $[_{CP}$ Force–Top*–Λ_A–Λ_P–Fin(=T_S–L_S) $[_{TP}$ PhiS–M–T–Voice–PhiO $[_{vP}$ …

In the approach pursued in Cinque 1999 and related work, this is just the tip of the iceberg, though. Clausal structure commonly seems to split into dozens of atomic head features.

Call this the *Richly Split Approach* to clausal structure, RSA. The analytical and empirical evidence in favour of RSA is robust–there is no doubt about that. However, it raises the simple, fundamental question in (2).

(2)   Where do the minimal clausal head features come from?

---

[1] Related ideas have been pursued by other researchers, most notably Valentina Bianchi (2003, 2006). Notice that my claim is that these elements are silent but active syntactic heads (probes), rather than semantic operators (as commonly assumed in the semantic and philosophical literature on Kaplanian monsters).

[2] Cf. Rizzi & Shlonsky 2006:349: "it appears that Fin can be either nominal or verbal, but not both at the same time."

[3] Alternatively, though, Voice might be the highest category in the v-system.

Chomsky has suggested that the language faculty "specifies the features **F** that are available to fix each particular language L" adopting "the conventional assumption that L makes a one-time selection [FL] from **F**. These are the features that enter into L; others can be disregarded in the use of L" (2001:10). However, this idea of feature givenness, *F-Givenness*, and subsequent *F-Selection* (reminiscent of Jakobsson's 1941 approach to phonological feature selection) does not explain or account for the problem–it just pushes it one step back (infinite regress or 'turtles all the way down'). If clausal head features are selected from a universal 'pool' of features, then the next question is inevitably the following one:

(3)   Where does the universal feature 'pool' come from?

Given a minimalist biological view of the language faculty (Chomsky 2004, 2007, 2008, Berwick & Chomsky 2011, etc.), the natural assumption is that Universal Grammar (UG) is not only computationally but also lexically or featurally minimal. That is; either UG is *maximally minimal* (lexically as well as computationally) or it is not minimal at all. Plausibly, then, UL, the Universal Lexicon (the lexical department of UG), contains only two elements: an initial root, $\sqrt{_0}$, *Root Zero*, and an initial functional feature, F_0, *Feature Zero* (the Edge Feature in Chomsky 2008). Figuratively speaking, Root Zero is a cell awaiting to be (more or less) arbitrarily filled with some conceptual content, say {DAD}. As soon as $\sqrt{_0}$ has been filled with some content, yielding Root One or $\sqrt{_1}$ in some internal language, the language faculty creates a copy, making $\sqrt{_0}$ available anew, this new copy awaiting to get arbitrarily filled with some content, say {MOM}, yielding $\sqrt{_2}$, and so on. Feature Zero or the (free) Edge Feature, in turn, is the syntactic 'glue' that enables recursive Merge of roots (and larger structures, already built by Merge). Atomic functional features (F-atoms) are, formally, copies of Feature Zero, much as lexical roots are, formally, copies of Root Zero. The growth of I-language thus involves propagation of roots and features, that is, reiterated Copy & Merge of $\sqrt{_0}$ and F_0 and subsequent specification of their content (the Copy Theory of Language Growth).

The basic idea that UL is maximally minimal is dubbed the *Anti-Lexicalist Hypothesis* in Sigurðsson 2011. If it is on the right track, the elements in (1) are not part of UG, instead being provided by the 3rd factor (in the sense of Chomsky 2005). However, it does not follow that these elements cannot be universal–plausibly many, perhaps most or even all of them are universal. This is not a paradox–'being universal' does not entail 'belonging to UG.' That is, aspects/parts of the human mind/body that are not specifically linguistic may obviously be

universal. Suppose, therefore, that there is a universal mind-internal but language-external conceptual department, *the concept mine*, where the language faculty digs or probes for raw material for the materialization of linguistic items and categories (by iterated copying and refilling of the minimal building blocks or cells, Root Zero and Feature Zero).

It has been argued that recursion is "the only uniquely human component of the faculty of language" (Hauser et al. 2002:1569; cf. much related work, including Chomsky 2007). However, UG must contain at least three basic factors or ingredients:

A.   The Universal Lexicon, UL, containing Root Zero and Feature Zero
B.   Recursive Merge, operating without bounds
C.   Concept Linking–that is, access from UL to the concept mine, enabling lexical and functional growth of I-language

That is, not only Recursive Merge but also Concept Linking sets Human Language apart from other conceptual systems.[4]

Two key questions arise: First, is the cartography of I-syntax universal, and, if so, why is that the case? Second, how does I-syntax cartography develop in the individual, and why does it develop the way it does? Given, for instance, that all individual I-languages operate with abstract categories of Force, Person and Tense (regardless of how they are externalized)–then, why is that so? These questions, raised by Luigi Rizzi's pioneering cartographic project will keep linguists, biologists, and philosophers preoccupied for many years to come.

References

Berwick, Robert C. & Noam Chomsky. 2011. The biolinguistic program: The current state of its development. In *The Biolinguistic Enterprise: New Perspectives on the Evolution and Nature of the Human Language Faculty*, ed. by Anna Maria Di Sciullo & Cedric Boeckx, 19–41. Oxford: Oxford University Press.

Bianchi, Valentina. 2003. On Finiteness as Logophoric Anchoring. In *Temps et point de vue/ Tense and point of view*, ed. by Jacqueline Guéron & Liliane Tasmovski, 213–246. Université Paris X.

---

[4] This applies to I-language. Externalization of language, for social purposes (communicative, territorial, etc.), is distinct from I-language. That is, PF is ancillary in relation to I-syntax (as frequently underlined by Chomsky).

Bianchi, Valentina. 2006. On the syntax of personal arguments. *Lingua* 116:2023–2067.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. by Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and Beyond - The Cartography of Syntactic Structure*, Vol. 3, ed. by Adriana Belletti, 104–131. Oxford: Oxford University Press.

Chomsky, Noam. 2005. Three factors in language design. *Linguistic Inquiry* 36:1–22.

Chomsky, Noam. 2007. Approaching UG from Below. In *Interfaces + Recursion = Language? Chomsky's Minimalism and the View from Syntax-Semantics*, ed. by Hans Martin Gärtner & Uli Sauerland, 1–30. Berlin: Mouton de Gruyter.

Chomsky, Noam. 2008. On Phases. In *Foundational Issues in Linguistic Theory. Essays in Honor of Jean-Roger Vergnaud*. Ed. by Robert Freidin, Carlos P. Otero & Maria Luisa Zubizarreta, 133–166. Cambridge, MA: MIT Press.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford: Oxford University Press.

Hauser, Marc D., Noam Chomsky & W. Tecumseh Fitch. 2002. The faculty of language: what is it, who has it, and how did it evolve? *Science* 298:1569–1579.

Jakobsson, Roman. 1941. *Kindersprache, Aphasie und allgemiene Lautgesetze*. English translation 1968 by Allan R. Keiler: *Child Language, Aphasia and Phonological Universals.* The Hague: Mouton.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar. Handbook in Generative Syntax*, ed. by Liliane Haegeman, 281–337. Dordrecht: Kluwer.

Rizzi, Luigi & Ur Shlonsky. 2006. The fine structure of the left periphery. In *Phases of Interpretation*, ed. by Mara Frascarelli, 341–361. Berlin: Mouton.

Sigurðsson, Halldór Ármann. 2004. The syntax of Person, Tense, and speech features. *Italian Journal of Linguistics* 16:219–251.

Sigurðsson, Halldór Ármann. 2010. On EPP effects. *Studia Linguistica* 64:159–189.

Sigurðsson, Halldór Ármann. 2011. On UG and materialization. *Linguistic Analysis* 37:367–388.