

An evolutionary approach to ellipsis

Sigurd Farstad Iversen, The University of Edinburgh

Why and when do we use ‘incomplete’ sentences? I present ongoing work for a revised approach to the phenomenon referred to as *ellipsis* in mainstream generative grammar (MGG) in light of research in iterated learning and more general developments in the cognitive and evolutionary wings of linguistics.

With syntactocentrism and assumptions of underlying sentential structures (*kernel sentences*) going back to Chomsky’s *Syntactic Structures* (1957), *elliptical sentences* like “A coffee for me, please” as said in a café have attracted some attention the last twenty years (e.g., Stainton 2004; Ludlow, 2005; Merchant, 2010; Progovac, 2006; Weir, 2020). The central problem for proponents of MGG has been to reconcile the contextually understood semantic structure (e.g., *I want you to make me coffee*), with the underspecified syntactic surface structure (e.g., *A coffee, please*). The proposed elided material comes in two contexts: 1) *with antecedents* such as asking “Who?” immediately after someone else saying “I talked to that guy from last night.”; and 2) *antecedentless*, such as exclaiming “A bird!” while walking in a park. The former type is less problematic and proposals suggesting extending the immediately preceding syntactic structure have seen some success. The latter type, more theoretically challenging, have been attempted answered by various underlying constants, i.e., sets of syntactic material employed in any given situation to rebuild superficially missing structure (Ludlow, 2005; Weir, 2020), some suggestions more elaborate than others (e.g., Merchant’s *limited ellipsis analysis*, 2003, 2004, 2010). A second MGG strategy has been to redefine what a ‘complete’ sentence or proposition really is (Progovac, 2006; Weir, 2020). Further, a more functionalist suggestion is that of *scripts*, proposing that for some cases of discourse-initial nonsententials, there is an underlying conventionalised and abbreviated ‘script’ specific to each given context. I argue like others (Culicover & Jackendoff, 2005; Stainton, 2006; Weir, 2020) that these proposals all either suffer from faulty predictions or an unacceptably complex theoretical architecture.

Meanwhile, a space in evolutionary approaches to linguistics has been carved out for iterated learning with artificial languages (see for instance Brighton & Kirby, 2001; Smith et al., 2003; Kirby et al, 2015), simulating how language is transmitted from generation to generation and how different aspects of the experiments’ design select for different linguistic traits. Essentially, it allows us to tweak contextual factors, e.g., transmission bottlenecks, i.e., the degree to which

one agent is exposed to the language of the previous generation (see e.g., Beckner et al., 2017). Considering a range of research on iterated learning, I argue that the languages produced by agents in these studies point directly towards a new explanation of ellipsis emphasising the conceptual aspects of the communicative context and how it selects for what emerges in syntax. Further, I argue that this fits into the theoretical frameworks of Ray Jackendoff's *Parallel Architecture* (2007) and larger evolutionary theoretical approaches derived from Croft(2001) and Hurford(2007).

References

- Beckner, C., Pierrehumbert, J., & Hay, J. (2017). The emergence of linguistic structure in an online iterated learning task. *Journal of Language Evolution*, 2, 160–176.
- Brighton, H., & Kirby, S. (2001). The Survival of the Smallest: Stability Conditions for the Cultural Evolution of Compositional Language. *Advances in Artificial Life*, (pp. 592–601).
- Chomsky, N. (1957). *Syntactic Structures*. The Hague: Mouton & Co.
- Croft, W. (2001). *Explaining Language Change: An Evolutionary Approach*. Pearson Education ESL.
- Culicover, P. W., & Jackendoff, R. (2005). *Simpler Syntax*. Oxford: Oxford University Press.
- Hurford, J. R. (2007). *The Origins of Meaning*. Oxford: Oxford University Press.
- Jackendoff, R. (2007). A Parallel Architecture perspective on language processing. *Brain Research* 1146, 2-22.
- Kirby, S., Tamariz, M., Cornish, H., & Smith, K. (2015). Compression and communication in the cultural evolution of linguistic structure. *Cognition* 141, 87-102.
- Ludlow, P. (2005). A Note on Alleged Cases of Nonsentential Assertion. In R. Elugardo, & R. J. Stainton, *Ellipsis and Subsential Speech* (pp. 95-108). Dordrecht: Springer.
- Merchant, J. (2003). Subject-auxiliary inversion in comparatives and PF output constraints. In K. Schwabe, & S. Winkler, *The Interfaces* (pp. 55-77). Berlin: John Benjamins Publishing Company.
- Merchant, J. (2004). Fragments and Ellipsis. *Linguistics and Philosophy*, 661-738.
- Merchant, J. (2010). Three Kinds of Ellipsis: Syntactic, Semantic, Pragmatic? In I. S. F. Recanati, & N. Villanueva, *Context-dependence, Perspective, and Relativity* (pp. 141-192). Berlin: Mouton de Gruyter.
- Progovac, L. (2006). The syntax of nonsententials, Small clauses and phrases at the root*. In L. Progovac, K. Paesani, E. Casielles-Suárez, & E. Barton, *The Syntax of Nonsententials : Multidisciplinary Perspectives* (pp. 33-71). John Benjamins Publishing Company.
- Smith, K., Brighton, H., & Kirby, S. (2003). Complex systems in language evolution: the cultural emergence of compositional structure. *Advances in Complex Systems*, Vol. 6, No. 4 , 537–558.

Stainton, R. J. (2005). In Defense of Non-Sentential Assertion. In Z. G. Szabo, *Semantics versus Pragmatics* (pp. 383-458). Oxford University Press.

Stainton, R. J. (2006). Neither fragments nor ellipsis*. In L. Progovac, K. Paesani, E. Casielles-Suárez, & E. Barton, *The Syntax of Nonsententials: Multidisciplinary perspectives* (pp. 93-116). John Benjamins Publishing Company.

Weir, A. (2020). Antecedentless fragments: a middle road between sententialism and nonsententialism. *Acta Linguistica Hafniensia.*, 1-29.