LLcD Workshop

Title:

Future directions in Word and Paradigm morphology

Five Keywords:

Morphological paradigms, Inflection, Derivation, Implicative structure, Open Questions

Conveners:

Erich Round (<u>e.round@surrey.ac.uk</u>) & Sacha Beniamine (<u>s.beniamine@surrey.ac.uk</u>): Surrey Morphology Group, University of Surrey, UK.

Workshop description:

Word and paradigm (WP) morphology has witnessed rapid progress over the past fifteen years, following a coalescence of theoretical interest around the Paradigm Cell Filling Problem (Ackerman et al. 2009), i.e., the challenge of explaining how speakers can produce and comprehend wordforms they have not encountered before, based on knowledge of related wordforms. This workshop aims to renew the program of WP morphology by drawing attention to problems that remain to be solved and to new opportunities that have opened up thanks to recent advancements. We welcome a broad diversity of approaches and methodologies.

By the turn of the millennium, a revived focus on the paradigm within morphological theory had led to new insights into the paradigmatic distribution of stem allomorphs (e.g. Maiden, 1992; Aronoff, 1994; Stump, 2001) and the predictive structure of inflection classes (e.g. Wurzel, 1984; Carstairs McCarthy, 1994). Ackerman, Blevins, and Malouf (2009) then focussed attention on the centrality of predictive structure: how is existing knowledge used to predict and comprehend hitherto unseen wordforms, and what makes this feasible? Ackerman et al.'s argument, that inflectional systems are structured in terms of implications between surface forms arranged within paradigms, led to a new focus on the sources and reliability of such implications, and in many cases, their quantitative investigation.

Ackerman & Malouf (2013) argued that paradigmatic organisation reveals an "implicative" dimension of morphological complexity, which is orthogonal to "enumerative" indicators such as Greenberg's (1954) indices of synthesis and agglutination, and is more comparable across languages. Stump and Finkel (2013) demonstrated the feasibility of evaluating implicative structure at scale using computational methods. Blevins (2016) further outlined the perimeter of contemporary Word and Paradigm morphology.

These advances led to a flourishing literature discussing empirical and computational refinements to the assessment of implicative structure (e.g. Corbett 2015; Sims, 2015; Bonami & Beniamine, 2016; Blevins et al. 2017; Baayen et al., 2019; Boyé & Schalchli, 2019; Cotterell et al., 2019; Beniamine & Carroll 2023), the empirical nature of implicative structure in various systems (e.g. Bonami & Boyé 2014 on French; Bonami & Luís 2014 on European Portuguese; Mansfield 2016 on Murrinhpatha; Sims 2015 on Modern Greek; Baerman 2015 on Seri; Guzmán Naranjo 2020 on Russian; Feist & Palancar 2021 on Chichimec; Pellegrini 2021 on Latin; Wilmoth and Mansfield 2021 on Pitjantjatjara), and its potential roles in analogy and language change (e.g. Ackerman & Malouf 2015; Sims-Williams 2021; Esher 2022; Round et al. 2022).

As these insights accumulate, new questions are now arising. For instance, do the many, formal characterisations of implicative structure differ only superficially, or might they reflect distinct dimensions of predictability which are as-yet poorly understood? What new theoretical puzzles have been posed by the results of recent empirical and modelling studies? And with recent advances in analytic concepts, large digital datasets and computational workflows (e.g. Sims 2020; Beniamine et al. 2023), what new opportunities are now within reach?

We seek forward-looking contributions that highlight current problems and new directions for word and paradigm morphology, including but not limited to:

- Empirical descriptions of phenomena or language data which present specific puzzles to a WP approach;
- Overviews which take stock of a strand of WP morphology;
- Open questions and challenges for WP morphology, including and not limited to models, analogy, implicative relations, formal representations thereof, variation and change;
- Descriptions of novel WP research programs and the questions they may address;
- WP morphology applied to derivation;
- Position papers regarding methodologies and/or formalisms;
- Current state of data and documentation; consequences of missing data; discussions of priorities in terms of data documentation;
- Theoretical papers advancing our understanding of WP morphology;
- Pilot studies showcasing new methodologies or investigating new models;
- WP morphology in relation to language acquisition, change and typology
- New takes on classic phenomena such as syncretism, suppletion, defectiveness; and classic concepts such as default inheritance, rules of referral, content and form paradigms.

References

- Ackerman, Farrell, James P. Blevins, and Robert Malouf (2009). "Parts and wholes: im plicative patterns in inflectional paradigms". In: Analogy in Grammar. Ed. by James P. Blevins and Juliette Blevins. Oxford: Oxford University Press, pp. 54–82.
- Ackerman, Farrell and Robert Malouf (2013). "Morphological organization: the low con ditional entropy conjecture". Language 89, pp. 429–464.
- Ackerman, Farrell and Robert Malouf (2015). The No Blur Principle effects as an emergent property of language systems. In *Proceedings of the Forty-First Annual Meeting of the Berkeley Linguistics Society (BLS 41)*, ed. AE Jurgensen, H Sande, S Lamoureux, K Baclawski, A Zerbe, pp. 1–14. Berkeley, CA: Berkeley Linguistic Society.
- Aronoff, Mark (1994). Morphology by itself. Cambridge: MIT Press.
- Baayen R. Harald, Chuang Yu-Ying, Shafaei-Bajestan Elnaz, Blevins James P. 2019. The discriminative lexicon: a unified computational model for the lexicon and lexical processing in comprehension and production grounded not in (de)composition but in linear discriminative learning. Complexity 2019:4895891
- Baerman, Matthew (2012). Paradigmatic chaos in Nuer. Language, 467-494.
- Baerman, Matthew (2016). Seri verb classes: Morphosyntactic motivation and morphological autonomy. *Language*, 792-823.
- Beniamine, Sacha & Carroll, Mae (2023). The other perspective on exponence. Presented at the 2023 International Symposium of Morphology, Nancy.
- Beniamine, Sacha, et al. (2023). Paralex: a DeAR standard for rich lexicons of inflected forms. Presented at the 2023 International Symposium of Morphology, Nancy.
- Blevins James P. (2016). Word and Paradigm Morphology. Oxford, UK: Oxford University Press
- Blevins James P., Petar Milin & Michael Ramscar (2017). The Zipfian Paradigm Cell Filling Problem. In Morphological Paradigms and Functions, ed. F Kiefer, JP Blevins, H Bartos, pp. 141–58. Leiden, Netherlands: Brill
- Bonami, Olivier and Sacha Beniamine (2016). "Joint predictiveness in inflectional paradigms". Word Structure 9.2, pp. 156–182.
- Bonami, Olivier & Gilles Boyé (2014). "De formes en thèmes". In: Foisonnements morphologiques. Etudes en hommage à Françoise Kerleroux. Ed. by Florence Villoing, Sarah Leroy, and Sophie David. Presses Universitaires de Paris Ouest, pp. 17–45.
- Bonami, Olivier and Ana R. Luís (2014). "Sur la morphologie implicative dans la conjugaison du portugais: une étude quantitative". In: Morphologie flexionnelle et di alectologie romane. Typologie(s) et modélisation(s). Ed. by JeanLéonard Léonard. Mémoires de la Société de Linguistique de Paris 22. Leuven: Peeters, pp. 111–151.
- Boyé, Gilles and Gauvain Schalchli (2019). "Realistic data and paradigms: the paradigm cell finding problem". In: Morphology 29, pp. 199–248.
- Carstairs-McCarthy, Andrew (1994). "Inflection Classes, Gender, and the Principle of Contrast". Language 70, pp. 737–788.
- Corbett, Greville G. (2015). Morphosyntactic complexity: A typology of lexical splits. *Language*, 145-193.
- Cotterell, Ryan, et al. (2019). "On the Complexity and Typology of Inflectional Morphological Systems". In: Transactions of the Association for Computational Linguistics 7, pp. 327–342.
- Esher, Louise (2022). The intricate inflectional relationships underpinning morphological analogy. Journal of Linguistics, 1-39.

- Feist, Timothy, & Palancar, Enrique L. (2021). Paradigmatic restructuring and the diachrony of stem alternations in Chichimec. *Language*, *97*(1), 1-41.
- Greenberg, Joseph H. (1954). "A quantitative approach to the morphological typology of language". In: Method and Perspective in Anthropology: Papers in Honor of Wilson D. Wallis. Ed. by Robert F. Spencer. University of Minnesota Press.
- Guzmán Naranjo, Matías (2020). "Analogy, complexity and predictability in the Russian nominal inflection system". Morphology 30.3, pp. 219–262.
- Maiden, Martin (1992). "Irregularity as a determinant of morphological change". In: Journal of Linguistics 28, pp. 285–312.
- Mansfield, John (2016). "Intersecting formatives and inflectional predictability: How do speakers and learners predict the correct form of Murrinhpatha verbs?" In: Word Structure 9, pp. 183–214.
- Pellegrini, Matteo (2021). "Patterns of interpredictability and principal parts in Latin verb paradigms: an entropy based approach". In: Journal of Latin Linguistics 20.1.
- Round, Erich, Sacha Beniamine & Louise Esher (2021). The role of attraction-repulsion dynamics in simulating the emergence of inflectional class systems. Presented at the 2021 International Symposium of Morphology, Paris. arXiv:2111.08465
- Sims, Andrea (2015). Inflectional defectiveness. Cambridge: Cambridge University Press.
- Sims, Andrea (2020). Inflectional networks: Graph-theoretic tools for inflectional typology. Proceedings of the Society for Computation in Linguistics, 3(1), 88-98.
- Sims-Williams, Helen (2022). Token frequency as a determinant of morphological change. Journal of Linguistics 58(3):571–607
- Stump, Gregory T. and Raphael Finkel (2013). Morphological Typology: From Word to Paradigm. Cambridge: Cambridge University Press.
- Stump, Gregory T. (2001). Inflectional Morphology. A Theory of Paradigm Structure. Cambridge Studies in Linguistics 93. Cambridge: Cambridge University Press.
- Wilmoth, Sasha and John Mansfield (2021). "Inflectional predictability and prosodic mor phology in Pitjantjatjara and Yankunytjatjara". In: Morphology 31.4.
- Wurzel, Wolfgang Ulrich (1984). Flexionsmorphologie und Natürlichkeit. Ein Beitrag zur morphologischen Theoriebildung. Berlin: Akademie Verlag.