RECENT COMPUTER IMPLEMENTATIONS
OF PHRASE STRUCTURE GRAMMARS

1. John Bear


Linguistics Research Center, P.O. Box 7247, University Station, University of Texas, Austin, TX 78712, USA.


2. Roger Evans (ProGram)

Grammar development system intended for use by linguists and computational linguists developing grammars for significant fragments of natural languages. Incorporates all aspects of the 1982 GPSG framework; features, metarules, ID/LP, feature instantiation, coordination, etc. No semantics implemented. Parses using ID/LP formal directly (doesn't create the induced set of PS rules). Allows user to direct the parsing if they wish. Languages: Prolog (within the POPLOG environment). Machines (OS): VA1 11/780 VMS, VA1 11/758 UNIX

Roger Evans, Cognitive Studies Programme, University of Sussex, Brighton BN1 9QN, UK.


3. Hewlett Packard

Top-down parser and transducer yielding first order logic translations. Includes metarules, features, some feature instantiation principles, slash categories, but not ID/LP. Intended as portable front-end for databases, and currently hooked up to relational database in HPML (a development of FDL). System currently undergoing through revision and redesign. Language: LISP (PSL). Machines (OS): VA1 11/780 UNIX, HP 9836 (NMODE).

Geoffrey K. Pullum, Daniel P. Flickinger, Carl Pollard, Derek Prouidian, Ivan A. Sag, Thomas Mason, (and formerly also Jean Mark Gawron and Anne E. Paulson). Computer Science Laboratory, Hewlett Packard Company, 1501 Page Mill Road, Palo Alto, CA 94304, USA.


4. Mark Johnson


Department of Linguistics, University of California at San Diego, La Jolla, CA 92037, USA.

5. James Kilbury


6. Francis Jeffry Pelletier


Department of Philosophy, University of Alberta, Edmonton, Canada T6G 2H1.
Computer implementations of phrase structure grammars

7. Stephen G. Pulman


Phonology, School of English and American Studies, University of East Anglia, Norwich NR4 7TJ, UK.


Pulman, Stephen (1983b) Computational linguistics and language teaching. MS, UEA.

8. Lenhart K. Schubert


Department of Computing Science, University of Alberta, Edmonton, Canada T6G 2N1.


9. Hidetoshi Shirai


Department of Mathematical Engineering and Instrumentation Physics, Faculty of Engineering, University of Tokyo, Hongo 7-3-1, Bunkyo-ku, Tokyo 113, JAPAN.


10. SRI International (PATR-I)

CKY parser, feature system allows Boolean combinations of feature equalities interpreted on the fly, no metarules, semantics converted to first-order logic and passed to a theorem prover. Languages: INTERLISP. Machine (OSI): DEC-20 (TOPS 28).

Stuart Shieber and Stan Rosenschein, SRI International, 333 Ravenswood Avenue, Menlo Park, CA 94025, USA.


11. SRI International (PATR-II)

Parser: CKY (LISP), Earley’s algorithm (Prolog); feature system: directed acyclic graph structures, semantics embedded in feature system; morphological analysis by method of Kimm Kokkenniemi [1982]. Languages — 3 implementations of the PATR-II formalism: INTERLISP (DEC-20), Prolog (DEC-20), TELALISP (Symbolics 3600). Machines (OSI): DEC-20 (TOPS 28), Symbolics 3600.

Stuart Shieber, SRI International, 333 Ravenswood Avenue, Menlo Park, CA 94025, USA.


12. Henry Thompson and John Phillips

Chart parser (intended for grammar testing), incorporates all aspects of the 1992 GPSG framework; features, metarules, feature instantiation, coordination, etc. Semantics currently being implemented. Language: UCILISP, FranzLisp. Machines: OS1 DEC10 (Tops10), VAX 11/780 (UNIX).

Department of Artificial Intelligence, University of Edinburgh, Hope Park Square, Edinburgh EH8 9NN, UK.


Other relevant references:


Joshi, Aravind (1983) Factoring recursion and dependencies: an aspect of tree-adjoining grammars (TAG) and a comparison of some formal properties of TAGs, GPSGs, PLGs, and LFGs. Proceedings of the 21st Annual Meeting of the Association for Computational Linguistics, 7-15.


