

Quicksort problem was run as an example of a problem where dynamic scheduling is necessary [25].

6. Summary

In this chapter, an overview of computer language design was presented. A scientific backdrop was provided for the presentation from which it is easier to understand the exchange between theoretical and experimental language research. The backdrop also makes the distinction between ordinary and extraordinary language research easier to make. The impact of the scientific approach is then presented in the summary on the development of *SequenceL*.

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References

1. A. Turing, "On computable numbers, with an application to the Entscheidungs problem", *Proceedings of the London Mathematical Society* **2**, no. 42, 230–265.
2. T. Kuhn, *The Structure of Scientific Revolutions* (Chicago University Press, 1962).
3. N. Wirth, "On the design of programming languages", *Proceeding of the IFIP Congress 74* (North-Holland Publishing Co.) 386–393.
4. D. Parnas, "On criteria to be used in decomposing systems into modules", *CACM*, **14**, no. 1 (April 1972) 221–227.
5. J. Backus, "Can programming be liberated from the von Neumann Style? A functional style and its algebra of programs", *Communications of the ACM* **21**, no. 8 (August 1978) 613–641.
6. R. Kowalski, "Algorithm = logic + control", *Communications of the ACM* **22**, no. 7 (July 1979) 424–436.
7. D. Cooke, "An Introduction to *SequenceL*: A language to experiment with nonscalar constructs", *Software Practice and Experience* **26**, no. 11 (November 1996) 1205–1246.
8. G. Blelloch, "Programming parallel algorithms", *Communications of the ACM* **39**, no. 3 (March 1996) 85–97.
9. D. I. A. Cohen, *Introduction to Computing Theory* (John Wiley and Sons, Inc., New York, 1986).
10. P. Zave, "An insider's evaluation of PAISley", *IEEE Transactions on Software Engineering* **17**, no. 3 (March 1991) 212–225.
11. N. Wirth and J. Gutknecht, *Project OBERON The Design of an Operating System and Compiler* (Addison-Wesley Publishing Company, Reading, MA, 1992).
12. J. McCarthy, "Recursive functions of symbolic expressions and their computation by machine", *Communications of the ACM* **3**, no. 4 (April 1960) 184–195.
13. P. Hudak, *The Haskell School of Expression: Learning Functional Programming through Multimedia* (Cambridge University Press, New York, 2000).
14. C.A.R. Hoare, "Communicating Sequential Processes", *Communications of the ACM* **21**, no. 8 (August, 1978) 666–677.
15. E. W. Dijkstra, "Guarded commands", *Communications of the ACM* **18**, no. 8, 453–457.

16. D. Gelernter, "Generative communications in Linda", *ACM Transactions on Programming Languages and Systems* **7**, no. 1 (1985), 80–112.
17. K. Iverson, *A Programming Language* (Wiley, New York, 1962).
18. K. Iverson, *Journal of the Introduction and Dictionary*, Iverson Software Inc. Toronto, 1994.
19. J. P. Banatre and D. Le Matayer, "Programming by multiset transformation", *Communications of the ACM* **36**, no. 1 (January 1993) 98–111.
20. V. Breazu-Tannen, P. Buneman and S. Naqvi, "Structural recursion as a query language," *Proceedings of 3rd International Conference on Database Programming Languages*, Nafplion, Greece (Morgan Kaufmann) 9–19.
21. C. Hankin, D. Le Metayer, and D. Sands, *A Calculus of Gamma Programs*, Publication Internet no 674, Juillet, IRISA, France, 1992.
22. J. Sipelstein and G. Blelloch, *Collection-Oriented Languages*, Report, School of Computer Science, Carnegie Mellon University, CMU-CS-90-127.
23. D. Suciu, *Parallel Programming Languages for Collections*, PhD Dissertation in Computer and Information Science, University of Pennsylvania, 1995.
24. D. Cooke, "SequenceL provides a different way to view programming", *Computer Languages* **24** (1998) 1–32.
25. D. E. Cooke and Per Andersen, "Automatic parallel control structures in sequenceL", *Software Practice and Experience* **30**, no. 14 (November 2000) 1541–1570.