

Useful historical material

Change suggestions to CBJ

July 18, 2022

Papers containing historical reviews

These references are to publications that relate to the material in the book. (Some items might be behind “paywalls”.)

- [LW69] describes the VDL (Vienna Definition Language) operational semantic approach to the formal description of programming languages.
- [Jon03] surveys approaches to verification of programs.
- [Pri20] describes more recent (than previous item) archive research that uncovered important information on von Neumann’s annotated flowcharts.
- [Plo04] discusses the origins of his SOS approach <http://dx.doi.org/10.1016/j.jlap.2004.03.009>
- [Ast19] “Formalising Meaning: a History of Programming Language Semantics” is Troy Astarte’s Newcastle PhD thesis http://homepages.cs.ncl.ac.uk/troy.astarte/res/pdf/TK_Astarte_Formalising_Meaning_2019.pdf
- [JA16] “Exegesis” looks in more detail at four formal descriptions of ALGOL 60
- similarly [JA18] spells out in detail challenges in formal description of sequential programming languages
- ...

Some useful archives

- Hoare: see on-line index at www.cs.ox.ac.uk/people/publications/date/Tony.Hoare.html
- Prof John Tucker at Swansea University is building an interesting collection of papers donated by researchers who are/were active in the area of “formal methods”

- Strachey: Bod (Weston library). Index at ...
- Strachey at 100
- Alan Turing's papers are archived at King's College (index at <https://turingarchive.kings.cam.ac.uk>)
- von Neumann (information kindly provided by Mark Priestley):
The main JvN archive is in the Library of Congress: https://findingaids.loc.gov/db/search/xq/searchMfer02.xq?_id=loc.mss.eadmss.ms996003&_faSection=overview&_faSubsection=did&_dmdid=
There is also significant JvN material in Herman Goldstine's archive at the American Philosophical Society.
- ...

References

- [Ast19] Troy K. Astarte. “Formalising Meaning: a History of Programming Language Semantics”. PhD thesis. Newcastle University, June 2019.
- [Ast20] Troy K. Astarte, ed. *HFM 2019 - History of Formal Methods Workshop*. In: *Formal Methods. FM 2019 International Workshops. Porto, Portugal, October 7–11, 2019, Revised Selected Papers, Part II*. Lecture Notes in Computer Science 12233. Springer-Verlag, 2020. DOI: 10.1007/978-3-030-54997-8.
- [JA16] Cliff B. Jones and Troy K. Astarte. *An exegesis of four formal descriptions of ALGOL 60*. Technical Report CS-TR-1498. Newcastle University School of Computer Science, Sept. 2016.
- [JA18] Cliff B. Jones and Troy K. Astarte. “Challenges for semantic description: comparing responses from the main approaches”. In: *Proceedings of the Third School on Engineering Trustworthy Software Systems*. Ed. by Jonathan P. Bowen, Zili Zhang, and Zhiming Liu. Vol. 11174. Lecture Notes in Computer Science. 2018, pp. 176–217. DOI: 10.1007/978-3-030-02928-9_6.
- [Jon03] Cliff B. Jones. “The Early Search for Tractable Ways of Reasoning about Programs”. In: *IEEE Annals of the History of Computing* 25.2 (2003), pp. 26–49. DOI: 10.1109/MAHC.2003.1203057. URL: <http://doi.ieeecomputersociety.org/10.1109/MAHC.2003.1203057>.
- [LW69] Peter Lucas and Kurt Walk. “On the formal description of PL/I”. In: *Annual Review in Automatic Programming* 6 (1969), pp. 105–182.
- [Plo04] Gordon D. Plotkin. “The origins of structural operational semantics”. In: *Journal of Logic and Algebraic Programming* 60–61 (2004), pp. 3–15. ISSN: 1567-8326. DOI: doi:10.1016/j.jlap.2004.03.009. URL: <http://www.elsevier.com/locate/jlap>.
- [Pri20] Mark Priestley. “Flow Diagrams, Assertions, and Formal Methods”. In: *HFM 2019 - History of Formal Methods Workshop*. In: *Formal Methods. FM 2019 International Workshops. Porto, Portugal, October 7–11, 2019, Revised Selected Papers, Part II*. Ed. by Troy K. Astarte. Lecture Notes in Computer Science 12233. Springer-Verlag, 2020, pp. 15–34. ISBN: 978-3-030-54997-8. DOI: 10.1007/978-3-030-54997-8.