

Table of Contents

Introduction, by A. G. Hume
Supplementary material for the Research UNIX® system.

Document Preparation

"Typing Documents on the UNIX System: Using the `-ms` and `-mcs` Macros with Troff" L. L. Cherry and M. E. Lesk.

The basic *troff* macro packages: the `-ms` document style is useful for most purposes, and `-mcs` handles Bell Labs cover sheets.

"The `-mpm` Macro Package" B. W. Kernighan and C. J. Van Wyk.
Describes the `-mpm` macros, a version of `-ms` that does automatic page balancing.

"Typesetting Mathematics — User's Guide" B. W. Kernighan and L. L. Cherry.
Describes *eqn*, an easy-to-learn language for doing high-quality mathematical typesetting.

"Tbl — A Program to Format Tables" L. L. Cherry and M. E. Lesk.
A program to permit easy specification of tabular material for typesetting. Again, easy to learn and use.

"Pic — A Graphics Language for Typesetting" B. W. Kernighan
A language for describing line drawings. *Pic* descriptions included in manuscripts make high-quality drawings when typeset.

"Ideal — A Picture-specification Language" C. J. Van Wyk
This relative of *pic* specifies pictures with constraints and equations. Although harder to use than *pic*, it supports generalized pens, region filling and opaqueing.

"Grap — A Language for Typesetting Graphs" J. L. Bentley and B. W. Kernighan.
Converts numerical data into beautifully typeset graphs and charts. Instructions to *grap* may be included in any manuscript.

"Dag — A Program for Drawing Directed Graphs" E. R. Gansner, S. C. North, and K. P. Vo.
Given the connection list (and labels) for a graph, *dag* generates an uncluttered layout for typesetting.

"Formatting References with Prefer" M. A. Derr.
Prefer, the modern replacement for *refer*, replaces symbolic citations in a text with properly sequenced bibliographic references and prepares a bibliography.

"Cip User's Manual: One Picture is Worth a Thousand Words" S. A. Browning.
How to interactively draw *pic* pictures for your documents on a screen instead of programming them.

"Troff User's Manual" J. F. Ossanna and B. W. Kernighan.
The basic text-formatting program.

"A Troff Tutorial" B. W. Kernighan.
An introduction to *troff* for those who really want to know such things.

"Typing Documents on the UNIX System: Using Monk 0.6" S. L. Murrel and T. J. Kowalski.
How to format documents with *troff* without ever writing *troff* code.

"Latex User Guide" H. Trickey.
Local variations to the Latex book.

Programming

"Mk — A Successor to Make" A. G. Hume.

The best tool for making sure that large programs are properly compiled with minimal effort.

"Rc — A Shell for Plan 9 and UNIX" T. Duff.

The next stage in symbolic shells.

"The Snocone Programming Language" A. Koenig.

A SNOBOL with syntactic sugar.

"A Portable Fortran 77 Compiler" S. I. Feldman and P. J. Weinberger.

Details about the local Fortran.

"The C Interpreter: A Tutorial for Cin Version 0.18" T. J. Kowalski, H. H. Goguen, and J. J. Puttress.

A surprisingly effective approach to C. Interpreted code can be combined with compiled code for both flexibility and speed.

"The Feel of Pi" T. A. Cargill.

How to use an amazing multi-window debugger for C programs.

Supporting Tools and Languages

"Yacc: A Parser Generator" S. C. Johnson and R. Sethi.

Converts a BNF specification of a language and semantic actions written in C into a compiler for the language.

"Lex — A Lexical Analyzer Generator" M. E. Lesk and E. Schmidt.

Creates a recognizer for a set of regular expressions; each regular expression can be followed by arbitrary C code which will be executed when the regular expression is found.

"Sed — A Non-interactive Text Editor" L. E. McMahon.

A variant of the editor for hands-off processing in a single pass.

"The Text Editor Sam" R. Pike.

The design and use of a remarkable programmable editor with a slick mouse interface.

"Pico — A Language For Composing Digital Images" G. J. Holzmann.

A sophisticated, programmable transformer of digitized pictures.

"Spin — A Protocol Analyzer" G. J. Holzmann.

A small and powerful tool for the analysis of distributed systems.

"A System for Algorithm Animation" J. L. Bentley and B. W. Kernighan.

A system for displaying data that varies over time. Outputs include an interactive viewer and snapshots for inclusion in a *troff* document.

"Computer Music Under the 10th Edition UNIX System" T. J. Killian.

Programs that convert ASCII to audio.

"The 10th Edition Raster Graphics System" T. Duff.

How to make, process, and display high quality color images.

Implementation and Maintenance

"Setting Up a Research UNIX System" N. Wilson.

How to configure your system and get it running.

"A Stream Input-Output System" D. M. Ritchie.

The way data is passed among processes and communication devices.

"A Look at the Ninth Edition Network File System" S. A. Rago.

Details of the current network file system protocol for Research UNIX.

"Interprocess Communication in the Ninth Edition UNIX System" D. L. Presotto and D. M. Ritchie.

A description of the current IPC system; both the underlying system primitives and the user-level code.

"Authmgr — An Authentication Service for Datakit" D. Cohrs.

A Datakit service for authenticating users.

"UNIX System Security" F. T. Grampp and R. H. Morris.

How the bad guys can get you if you don't watch out.

"Upas — A Simpler Approach to Network Mail" D. L. Presotto and W. R. Cheswick.

How the mail system is organized and how it deals with networks.

"Uucp Administration" D. A. Nowitz.

How *uucp* works, and how to administer it.

"Fsock — The UNIX File System Check Program" T. J. Kowalski.

Semi-automatic diagnosis and repair of UNIX file systems.

"The File Motel: An Owner's Manual" A. G. Hume.

The design and maintenance of the 10th Edition incremental file backup system.

"A Guide to the Lp Printer Spooler" P. Glick.

The intricacies of running your printers.

"Index" L. L. Cherry.

An almost mechanically generated index.