

PASCAL USER'S GROUP

Pascal News

NUMBER 15

COMMUNICATIONS ABOUT THE PROGRAMMING LANGUAGE PASCAL BY PASCALERS

SEPTEMBER, 1979



P. U. G.

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Front Cover Guardian of Rational Programming

- 0 POLICY: Pascal News
- 1 Thanks for not giving up hope...
- 2 EDITOR'S CONTRIBUTION
- 3 HERE AND THERE WITH Pascal
 - 3 Tidbits
 - 5 Pascal in the News
 - 7 Pascal and Teaching (postponed until #17)
 - 7 Ada (DoD-1)
 - 8 Books and Articles (mostly postponed)
 - 9 Conferences and Seminars
 - 13 PUG Finances
 - 13 Roster Increment
- 27 APPLICATIONS
 - 27 Introduction and News
 - 28 Software Tools
 - 55 Programs
 - 56 Algorithms
- 60 ARTICLES
 - 60 "A Contribution to Minimal Subranges" - Laurence Atkinson
 - 62 "A Note on Scope, One-Pass Compilers, and Pascal" - Arthur Sale
 - 63 "Pascal-I - Interactive, Conversational Pascal-S" - Richard Cichelli
 - 67 "Tracing the Heap" - Steve Schach
 - 68 "Why use Structured Formatting?" - John Crider
- 71 OPEN FORUM
 - 71 Future of Pascal News - Save the PUG
 - 77 General
 - 90 Pascal Standards
 - 99 Validation Suite
- 100 IMPLEMENTATION NOTES
 - 100 Portable Pascals
 - 100 Pascal Variants
 - 104 Hardware Notes
 - 104 Feature Implementation Notes
 - 106 Checklist
 - 107 Machine-Dependent Implementations
- 125 POLICY: Pascal User's Group



1976, U.S.A.



1977, Europe



1977, Australia

...

Back Cover University of Minnesota Equal-Opportunity Statement

POLICY: PASCAL NEWS (79/09/01)

- * Pascal News is the official but informal publication of the User's Group.

Pascal News contains all we (the editors) know about Pascal; we use it as the vehicle to answer all inquiries because our physical energy and resources for answering individual requests are finite. As PUG grows, we unfortunately succumb to the reality of (1) having to insist that people who need to know "about Pascal" join PUG and read Pascal News - that is why we spend time to produce it! and (2) refusing to return phone calls or answer letters full of questions - we will pass the questions on to the readership of Pascal News. Please understand what the collective effect of individual inquiries has at the "concentrators" (our phones and mailboxes). We are trying honestly to say: "we cannot promise more than we can do."

- * An attempt is made to produce Pascal News 3 or 4 times during an academic year from July 1 to June 30; usually September, November, February, and May.
- * ALL THE NEWS THAT FITS, WE PRINT. Please send material (brevity is a virtue) for Pascal News single-spaced and camera-ready (use dark ribbon and 18.5 cm lines!).
- * Remember: ALL LETTERS TO US WILL BE PRINTED UNLESS THEY CONTAIN A REQUEST TO THE CONTRARY.
- * Pascal News is divided into flexible sections:

POLICY - tries to explain the way we do things (ALL-PURPOSE COUPON, etc.).

EDITOR'S CONTRIBUTION - passes along the opinion and point of view of the editor together with changes in the mechanics of PUG operation, etc.

HERE AND THERE WITH PASCAL - presents news from people, conference announcements and reports, new books and articles (including reviews), notices of Pascal in the news, history, membership rosters, etc.

APPLICATIONS - presents and documents source programs written in Pascal for various algorithms, and software tools for a Pascal environment; news of significant applications programs. Also critiques regarding program/algorithm certification, performance, standards conformance, style, output convenience, and general design.

ARTICLES - contains formal, submitted contributions (such as Pascal philosophy, use of Pascal as a teaching tool, use of Pascal at different computer installations, how to promote Pascal, etc.)

OPEN FORUM FOR MEMBERS - contains short, informal correspondence among members which is of interest to the readership of Pascal News.

IMPLEMENTATION NOTES - reports news of Pascal implementations: contacts for maintainers, implementors, distributors, and documentors of various implementations as well as where to send bug reports. Qualitative and quantitative descriptions and comparisons of various implementations are publicized. Sections contain information about Portable Pascals, Pascal Variants, Feature-Implementation Notes, and Machine-Dependent Implementations.

- * Volunteer editors for this issue (#15) were:

Rick Marcus, Andy Mickel, Jim Miner, Arthur Sale, and Rick Shaw.

(Rick Shaw and Arthur dropped into Minneapolis to save the day!)

Thanks for not giving up hope ...

Pascal News is alive and well !

Well, everyone, it's been a real struggle to get this issue done in spite of the delays over the last 6 months. Unfortunately we've caused some confusion. Please note:

THIS ISSUE (#15) AND NEXT ISSUE (#16) STILL APPLY TO 78-79 SUBSCRIPTIONS!!!

In other words, if your mailing label says "RENEW JUNE 79", your subscription has not expired yet. Further, our policy states that if you join PUG anytime during an academic year ending June 30, we will send you all 4 issues for that year. Well now, I'd like to point out that we are still in the 78-79 academic year (!), and that all new subscriptions are being forced to that period. Why? I expect you new members want the latest information that's available (such as this issue), and this is a 78-79 issue.

Therefore whereas we say in the policy that we attempt to publish September, November, February, and May issues, for 78-79 subscriptions we will have had December, January, September, and October issues. 79-80 subscriptions will start with a November issue (#17). We'll get back on track eventually (I hope!). I'm sorry for the confusion.

Now let me try to explain what happened:

Volunteers do the work on Pascal News. As anyone in computing these days knows, talent (or even mere bodies) are hard to find. With Jim Miner absorbed in standards activities and everyone else hard at work at regular jobs, it's been just Rick Marcus and myself holding things down. In fact from 79/01/22 to 79/04/15, mail piled up unopened, and we were still delinquent in sending out some backissues ordered since 78/11/08! So if you are a new member who joined during this period (nearly 800 of you!), you were the victims of unacceptably bad service. I apologize. By 79/05/15 we had processed the mail and mailed out backissues, which in some cases took 1 more month (79/06/15) to arrive.

However, the next urgent task was to tidy up the PUG files (about 10000 ALL-PURPOSE COUPONS) and update the accounting since we let things go back in May, 1978. It was actually back then that our troubles began, because one article publicizing Pascal and PUG in ComputerWorld generated 500 new members in one month (or a 25% increase in membership in one single month!) We have only recently fully recovered. This summer Rick and I spent one month completely straightening the files. Straightened files (very important) allows us to process new memberships and renewals faster, because we can eliminate duplicates and follow up questions about membership status, lost and uncashed checks, etc.

Finally on 79/08/28, I processed all subscriptions (approximately 450) from 79/05/16 onward and mailed backissues. Only then did we begin looking at Pascal News #15 seriously.

Thanks a lot for your faith and patience--miraculously we've received zero requests for refunds, and only 10 requests regarding what is happening. When I said in #13 that I was quitting effective anytime after July 1, 1979, I was intending to do the 2 issues remaining for 78-79, and #15 and #16 represent the followthrough on that commitment. Some people thought that #13 was my "swansong."

-Andy

Editor's Contribution

About This Issue

As I said on the previous page, it's been a real struggle to get this issue of Pascal News produced. It was a hard task to face, too! Foremost is the fact that we were behind in processing the ever-increasing volumes of mail with fewer and fewer volunteers. Next, event surrounding standards activities effectively sapped all our energy (or so it seems!). Also with the uncertain future of Pascal News and PUG, lots of time was spent discussing "solutions." I found it really depressing to continue to have to cooperate with certain people and performing certain activities (e.g. someone suggesting some grand future for PUG such as a constitution and then requiring me to do all the transition work to implement it) that I don't like nor believe in. I still have my regular job to do here at the comp center

Anyway, good news! With the help of Rick Marcus, and in the last week the air-borne reinforcements of Arthur Sale, Rick Shaw, and a work-liberated Jim Miner, we were able to deal #15 a knockout blow. The next issue (#16) will be a special one on the Validation Suite (see below) and my last one as editor. #16 should appear very shortly after this issue and wrap up the 78-79 academic year.

The Future of Pascal News and PUG

(*Please see related correspondence in the Open Forum section.*)

When we last left you, I had written an editorial and an open letter in #13 saying that I was quitting the editorship of Pascal News and my work informally coordinating Pascal User's Group, and that basically there were 4 alternative futures for consideration. One of these was a proposed constitution provided by Richard Cichelli which included a ballot to be returned by April 15, 1979.

I claimed then that the constitution was probably the best alternative, and that the least likely alternative was to keep PUG the same, but to decentralize the work.

I guess I was really wrong!

Rick Shaw (to whom ballots were to be sent) tabulated 56 votes in favor, 22 votes against and 2712 abstentions of the 2790 active members. 5 of the yes votes dissented on the by-laws. Some comments written-in included: the constitution effectively shuts out international members; affiliation with IEEE or ACM SIGPLAN was the best alternative. More than a dozen of the "no" votes were in favor of disbanding PUG altogether.

In spite of their promises Steve Zilles (SIGPLAN Chairman) and Bruce Ravenel (on behalf of IEEE) did not send us letters to print for our consideration proposing how we might affiliate with them, much less inviting us to do so. So much for ACM and IEEE.

I happened to go with Jim Miner to my first IEEE P770 / ANSI X3J9 Joint Pascal Standards meeting in Boulder the last week in April, and met many people with whom I discussed PUG's future (besides explaining our terrible workload, etc.). The feeling by-and-large was that they wanted to see a good thing like an independent PUG continued, and that they had voted for the constitution because they way no other real choice, but ideally they would like to see PUG continued as it is now.

There followed one of those smoke-filled-room meetings in one of the hotel rooms among Jim Miner, Scott Jameson, Rick Shaw, Rich Cichelli, and others (but not myself!) in which a heated (and smoky!) argument raged for over 4 hours. The result was the expansion of David Barron's idea by Jim Miner: the realization that the only important activity of PUG is the publication of Pascal News. Several people responded to Jim's initiative (see Open Forum), and the best news was that Rick Shaw volunteered to take over as editor and informal coordinator of Pascal User's Group for 2 years. Rick is a capable administrator (whereas I am not good at delegating responsibility), and he has the luck of being in a nice work environment at DEC's Atlanta Regional Office with ready access to clerical facilities, etc.

We then realized that PUG could continue informally without a constitution and other politic baggage. The constitution vote could then be thrown safely out--after all, 97% of the membe did not vote! The last step was to actively decentralize the work so that Rick could avoid drowning quickly. We then started to recruit more section editors for Pascal News. The list of new volunteers now looks like this: Rick Shaw - editor; Bob Dietrich and Greg Marshall - Implementation Notes editors; John Eisenberg - Here and There editor; Rich Stevens - Books and Articles editor; Andy Mickel and Rich Cichelli - Applications editors; and Tony Addyman and Jim Miner - Standards editors. Rick will simply forward material to them which they in

turn will convert to camera-ready copy and return to Rick for paste-up. Meanwhile part of the subscription money to Pascal News will go to pay for clerical work (under Rick) for the mailing-label data base, word-processing tasks, printing, mailing, etc. Atlanta is the home of Georgia Tech and Georgia State University with whom Rick has close ties.

We even got offers from the following people and organizations who have expressed the ability to help Pascal News in some material way: John Knight at NASA Langley, Rusty Whitney at Oregon Software, Marius Troost at Sperry Univac Minicomputer Operations, and Don Peckham at Pertec. So the future is bright.

Frankly, at the present time it appears that Pascal News can be viable for only 2 or 3 more years. With the explosion in Pascal interest, the phrase "lingua franca" is often heard in reference to Pascal. The obvious implications of lingua franca are that events surrounding Pascal will be covered thoroughly by every other computing journal and so will take over the role of Pascal News.

In summary, we saved Pascal News and PUG from the near political demise foisted on us in 1978 when the constitution idea was born. We'll have an informal PUG with no constitution by golly, or we'll have a constitution with no PUG! We've just altered the policy pages in Pascal News to protect ourselves from constitutions and politics in the future.

Notings

Pascal Standards The BSI/ISO standard's progress, with productive and valuable American cooperation, has been remarkable and encouraging, proving those who have claimed such an effort would take at least 5 years dead wrong. See Standards in the Open Forum section.

Pascal Validation Suite A new feather in Pascal's cap is the existence of a professionally produced Validation Suite of test programs to verify the standards-conformance, etc. of a given Pascal compiler. The collection of 300+ programs can be used by implementors and users alike to help enforce standards. See Standards in the Open Forum section. Pascal News #16 will be entirely devoted to the Validations Suite.

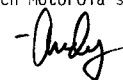
Defective copies of Pascal News #14 At least one person has reported that his issue of Pascal News is missing pages 6-14 and has pages 15-22 duplicated. If you are suffering from the same problem, let us know and we'll help.

Eurocheques David Barron sent along this note to European subscribers: "From time to time we are asked why we will not accept "Eurocheques", i.e. sterling cheques drawn on the subscriber's local bank. The answer is simple. A Eurocheque for £4 yields less than £3 to the PUG bank account. The difference, more than 25%, is the charge made by our bank for processing the Eurocheque. So please ask your bank for a draft drawn on a U.K. or Irish bank, or pay by direct transfer into our Post Giro account (28 513 4000)."

Pascal on Micros A large number of people have been complaining to us over the last year about our blind praise and support for Ken Bowles and his group's widespread Pascal interpreter for various micros popularly known as UCSD Pascal. They are expressing reservations about the lack of reliability and speed and the presence of non-standard features in UCSD Pascal. I'd like to make it clear that we don't blindly support Ken or anyone else even though we've printed some highly favorable items about UCSD Pascal in some past issues. (For some contrast see the checklist for UCSD Pascal in Pascal News #13 under DEC LSI-11.) Ken Bowles was one of the people who helped in the middle stages of Pascal's acceptance in this country. I might add that increasingly there is a trend among serious users of Pascal on micros to move away from UCSD Pascal to more standard, reliable, and faster implementations.

An example is Andrew Tanenbaum's Pascal-E (see Implementation Notes), a highly portable Pascal implementation initially developed on PDP-11's. It produces an optimal Pascal intermediate code called EM-1; the EM-1 optimizer on the 11 produces a full compiler in 20K bytes! Other examples are Boston Systems Office Pascal and 2 "native code" compilers for the Z-80 (from Indiana University and Zilog). According to Michael Rooney at BSO, their Pascal is a set of optimizing cross-compilers for use in burning ROM's. George Cohn at Indiana University has a compiler which can now compile itself (see Implementation Notes #13); Zilog seems to have a compiler as well (see Implementation Notes, this issue). Also be sure to watch Motorola's Pascal on the 68000 and National Semiconductor's Pascal on their 2903 and 2910.

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Tidbits

Peter C. Akwa, Schifferstraße 88 6000 Frankfurt/M. 70, GERMANY: "Yes, we now have a Northwest Microcomputer Systems 85/P. This is an 8085-based micro with 56k bytes of user-accessible memory, builtin screen and keyboard, and 2 8-inch floppy drives. It is distributed with UCSD Pascal I.4 (a bone of contention and disappointment to us since from the Bowles book Microcomputer Problem Solving Using Pascal we were led to expect the II.3 release with graphics)." (*79/1/11*)

Gerald P. Allredge, Dept. of Physics, Univ. of Missouri-Rolla, 103 Physics, Rolla, MO 65401: "Wilhelm Burger recommended that I contact you concerning Pascal implementations for IBM Systems 370 facilities. (I am particularly interested in getting his Pascal-based parser generator BOBSW running on the University of Missouri Computer Network, which is based on a S/370 168-158 couple.) We presently have the University of Manitoba Version 1 compiler, but Wilhelm thought that the Tobias and Cox version of Pascal 8000 would likely be substantially better. Can you give me an opinion on this? (If you are aware of any better S/370 version, I'd like to know about it also)." (*78/7/14*)

James A. Anderson, Dept. of Psychology, Brown University, Providence, RI 02912: "I am trying to find a Pascal program which can find the eigenvectors and eigenvalues of a real, symmetric matrix. An implementation of the Jacobi method is fine, or any alternate way of doing it. This is a very standard type of numerical task, so I suspect somebody must have done it. I would also be interested in finding out about programs for more general eigenvector and eigenvalue calculations if there are any around. I am doing some computer simulations of neural networks." (*79/8/1*)

Floyd O. Arntz, 44 Grove Hill Ave., Newtonville, MA 02160 "I am particularly interested in Pascal implementations available on soon-to-be available on commercial time sharing services. Also I am considering PDP-11 or CY18(CDC) mini applications." (*78/12/1*)

Arnold Bob, Digitron, 500 Fifth Ave., New York, NY 10036 : "We were wondering if anybody has UCSD Pascal based software for sale. We're especially interested in business and graphics programs, however we're also interested in other applications programs." (*79/1/26*)

Edward W. Bolton, 4253 Moore St., L. A., CA 90066: "My interest is in implementing a subset of Pascal on an 8080 based system (SOL) in less than 44K(bytes)." (*78/10/11*)

Father Mick Burns, St Katherine's Episcopal Church, Martin, SD 57551: "I operate a 24K Heath H8 system and am hot on the trail of a grant to upgrade to a 56K RAM and Heath DOS. As you probably know Heath will shortly make Pascal available to H8 and H11 users. ...Particular interest is in CAI (Christian education)." (78/9/11*)

Richard Brandt, University of Utah, Dept. of Physics, 201 N. Physics Building, Salt Lake City, UT 84112: "I have been running UCSD Pascal on my Terak's since last December. Although it is not a "pure" Pascal, computer science students who have used it have preferred it to the other two Pascal's on campus, specifically the ones on the Burroughs 1700 and DECsystem 20... Our primary emphasis has been in the development of CAI material using both graphics and animation. We have developed the following: (1) a graphics editor; (2) a screen editor; (3) a CAI compiler; (4) a CAI interpreter; and (5) an algebraic answer analyzer." (*78/11/15*)

Robert Cole, GTE Automatic Electric Labs, 11226 N 23rd Ave., Phoenix, AZ 85029, (602) 995-6900: Sent a letter on 78/10/30 soliciting help in finding a commercially produced PDP-11 to Intermediate code to Intel 8086 optimizing compiler written in Pascal.

Lorne Connel, University of Waterloo, Dept. of Computer Science, Waterloo, Ontario, Canada N2L 3G1: "We would like to obtain the SLAC Pascal compiler so that we may compare its performance and usability to other Pascal compilers we have tried. Could you please direct us to someone in this regard." (*79/4/10*)

Here and There With Pascal

Paul F. Fitts, INNOVATEK MICROSYSTEMS INC., Smithfield Rd., Millerton, NY 12546: "We have an immediate application for preparing an extensive software package and wish to consider Pascal as the program language... We are interested in locating Pascal software, such as compilers and applications programs." (*78/10/12*)

Charles D. Foley, 4 Knollwood Lane, Cold Spring, NY 10516: "To get to the meat of the request, I would like availability information on compilers for [IBM System/3 Model 10]..." (*79/2/26*)

Till Geiger, Falkensteinweg 8, D-7910 Neu Ulm, Germany: "I am just a fan of Pascal. My knowledge of Pascal is rather limited. Last spring I started to do some Pascal programming for about 3 months at New Ulm (Minnesota) High School. The inspiration to use Pascal came from a Pascal News copy a friend lent me. Compared to BASIC, it seemed to offer a totally new field. Those three months I worked with Pascal I got little done, because there were no books or other aids around. But I started to like Pascal and would prefer it over BASIC. In May I left for Germany. And MECC [Minnesota Educational Computing Consortium] is unachieved here. The school I am going has a PDP-11 but only with BASIC. Other schools don't even have computers in their school. So I have to stick with BASIC. Maybe in the near future I will find some system with Pascal in the Ulm area." (*79/4/23*)

Tony Gerber, etc., Basser Dept. of Computer Science, Madsen H08, University of Sydney, N.S.W., 2006 Australia: "Our department has finally switched to teaching Pascal, thus joining every other major Australian university in this regard." (*79/7/18*)

George W. Gerrity, University of New South Wales, Dept. of Mathematics, Australia: "At the moment, we have several PDP-11 machines running RSX-11, RT-11 (and UNIX part-time) and are looking desperately for a Pascal and/or Concurrent Pascal compiler or interpreter which will run under RSX-11D." (*78/7/17*)

J. Daniel Gersten, General Electric Co., Syracuse, NY 13201: "I am running the Swedish Pascal on a PDP-11/60 RSX-11M system. I have succeeded in compiling the compiler on the PDP-11 for version 4 and am presently working on the same for version 5." (*78/11/17*)

Jim Gilbert, Systems Structuring Technology, 30436 N. Hampton Rd., Laguna Niguel, CA 92677: "Get some cooperative soul to donate original copies of issues 1-8 for reproduction at exorbitant rates for the faithful who must have them." (*78/9/30*)

Pete Goodeve, 3012 Deakin St. #D, Berkeley, CA 94705: "We are using the University of Lancaster (P4) Pascal as the basis of a real-time experiment control installation. As you can guess, this needed some extensions to the system! (mainly consisting of an assembly language interface via external procedures, from which we can hang any kludges we like)." (*78/11/27*)

Geoffrey R. Grinton, Herman Research Laboratory, Howard St., Richmond, VA: "we are at present using OMSI Pascal-1 under RT-11 on a PDP-11/34 and several LSI-11 systems and AEC Pascal 8000 on an IBM 370" (*79/4/24*)

James Hargreaves, POB 14734, Cincinnati, OH 45214: "I plan to use Pascal on 990/4 and 990/10 TI computers as well as 9900 and 770 line equipment manufactured by TI that is compatible with the 990/4 and 990/10 cpu's. ... If you know of anyone in the USA who has converted the DEC based Pascal and Concurrent Pascal software on the TI 990 or 980 or 960 cpu's, I would like to get in touch with them." (*78/12/4*)

J. Niel Haynie, North Ridge Data, 971 E. Commercial Blvd., Fort Lauderdale, FL 33334: "We at North Ridge Data have recently committed ourselves to a major software development effort in the Pascal language. Specifically, we will use a micro computer implementation of UCSD Pascal in a real-time, interactive application...One of our primary concerns is the standardization of Pascal. We hope that the problems with Basic and its 50-odd versions does not befall Pascal. This would truly limit the expansion of Pascal into its deserved position as the "Lingua Franca" of computing." (*79/3/16*)

Ed Johnston, 715 6th St., Rochester, MN 55901: "As an IBM employee, I am attempting to generate some interest in Pascal within the company. Few people seem to have heard of it." (*78/12/12*)

