

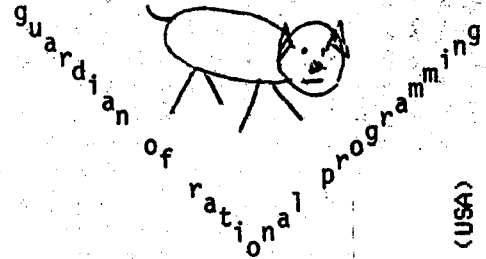
PASCAL USER'S GROUP

# Pascal News

NUMBER 15

COMMUNICATIONS ABOUT THE PROGRAMMING LANGUAGE PASCAL BY PASCALERS

SEPTEMBER, 1979



P. U. G.

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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.

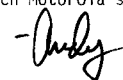
Defective copies of Pascal News #14 At least one person has reported that his issue of Pascal News is missing pages 6-14 and has pages 15-22 duplicated. If you are suffering from the same problem, let us know and we'll help.

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\*)

# Here and There With Pascal

Robert S. Kirk, American Microsystems Inc., 3800 Homestead Rd., Santa Clara, CA 95051: "American Microsystems, Inc. currently has Pascal running on our 6800 MDC's. We have a compiler on order from the University of Tasmania for our large Burroughs B7700 computer, and we are looking for a Pascal compiler for the PRIME 400 computer. Hopefully, your Users Group can aid us in locating Pascal compilers and in making this relatively young language a standard programming tool at American Microsystems, Inc." (\*79/1/11\*)

Les Kitchen, Comp. Sci. Ctr., Univ. of Maryland, College Park, MD 20742: "Very pleased to see draft standard in #14 especially type-equivalence defining occurrence & for-loop semantics." (\*79/3/15\*)

David A. Kohler, 1452 Portobelo Dr., San Jose, CA 95118: "I love the PN idea, but find the format a little disconcerting and difficult to read. Keep up the fine effort and emphasize those algorithms and software tools" (\*78/12/28\*)

Pierre J. Lavelle, Rua Pompeu Loureiro, N 120 APT. 602, 22061-Copacabana, Rio De Janeiro-Brazil: "Traveling PUG members welcome!" (\*78/11/17\*)

Richard Linton, 3027 N. Shepard Ave., Milwaukee, WI 53211: "Here at the U. W. -Milwaukee we are using both the Navy's and U. W. -Madison Pascals and we are currently running evaluations between the two." (\*79/3/3\*)

Paul C. Lustgarten, Computer Sciences Dept., U of Wisconsin, 1210 W. Dayton St., Madison, WI 53706: "I am a third year grad. student and teaching assistant at Univ. of Wisc. -Madison, and have been eager to use Pascal to teach introductory programming since I first used it. Although most of our (non-numeric) courses use Pascal whenever possible, almost all of our introductory courses use FORTRAN, COBOL, or BASIC! The only exception to this is the version of the intro. course for potential Computer Science majors, which uses Pascal... Also--my wife is a programmer for a company that produces data base systems on Data General Novas. Apparently, they view the execution speed of their systems as being of primary importance (over such other things as software reliability, cost/time of development, maintenance, etc.), and don't believe that any high-level language could possibly compete in this regard with the several dialects of assembly language they currently use (their comparison is with DG FORTRAN). Does anyone have any statistics or convincing arguments?" (\*79/1/9\*)

David Matthews, Process Computer Systems, 750 N. Maple Rd., Saline, MI 48176: "Printing actual programs (PUG News #12) was a great help in learning better (easier to read) style." (\*78/8/21\*)

Jim McCord, 330 Verada Leyenda, Goleta, CA 93017: "I'm a hobbyist using UCSD Pascal. Main interests are graphics, teaching-type programs and sophisticated games (a la Adventure). How many other hobby-Pascal'ers are there?" (\*78/11/14\*)

Monte Jay Meldman, M. D., 555 Wilson Lane, Des Plaines, IL 60016: "I am interested in knowing about word processors and accounts receivable and things like that on Pascal and would appreciate any information you can give me about applications that have been written for the PDP-11/40, RSTS/E. It really sounds like Pascal is interesting." (\*78/11/15\*)

Paul Miller, Avera Technology, 1643 Wright Ave., Sunnyvale, CA 94087: "My company has recently determined to use Pascal as the primary implementation language for a new product development. Our current plan is to do program development on a PDP-11 system under RSX-11M and then cross-compile for the microprocessor in our product. Any information you could send me about... DEC Pascal, or available help in starting up a Pascal product would also be appreciated." (\*79/5/7\*)

Anne Montgomery, POB 30204, Lowry AFB, CO 80230: "McDonnell Douglas has developed a CMI/CAI system here on Lowry Air Force Base called the Advanced Instructional System(AIS). ...This system is basically an extension of the CDC Scope 3.4.3(level 439) operating system. For the development of AIS we have developed a Pascal-like language

called CAMIL. The machine coded generator for the CAMIL language is written in Pascal. Camil, while intended primarily for CAI/CMI applications, also happens to be a very good general purpose language but can be run only in the interactive time sharing environment. Until a batch version of CAMIL can be developed, we are also using Pascal as our batch language. It has been used primarily to create batch versions of CAMIL programs because of the similarities between Pascal and CAMIL." (\*78/10/12\*)

Greg Morris, 297 Turnpike Rd., Westboro, MA 01581: "Much to my surprise, I was able to quickly find a job working with Pascal." (\*79/3/28\*)

Maurice R. Munsie, Network Computer Services, 69 Clarence St., Sydney, Australia, 2000: "We are distributing in Australia OMSI Pascal-1. A number of sales have been already made and plans are being made for the OMSI implementors to hold workshops in Australia later this year." (\*78/7/27\*)

David Nedland-Slater, 1, Buckland Close, Farnborough, Hants. GU14 8DH, United Kingdom: "I am interested in Pascal for micro work as a real alternative to assembler. I hope Pascal keeps us away from nasty bit twiddling." (\*78/10/3)

Niel Overton, Computer Systems & Services Inc., Box 31407, Dallas, TX 75231: "Wanted- an accounting package in Pascal. Wish to convert to target machine: TI DS990-2." (\*79/9/5\*)

G. Dick Rakhorst, Manudax Nederland B. V., 5473 ZG Heeswijk(NB), Holland, PB 25, Meerstraat 7: "As a distributor of Motorola Semiconductors Division in Holland we will introduce within one month a Dutch-written Pascal compiler for the Motorola MC 6800 microprocessor and also will Motorola introduce a Pascal compiler soon for the new MC 6809 and the 16 Bits MC 68000." (\*78/11/27\*)

F. Eric Roberts, Perkin Elmer Co., Mail Station 284, Main Ave., Norwalk, CT 06856: "I'm introducing the virtues of Pascal to a Fortran, PL/I and assembler community, for applications and small systems work. Full marks for fantastic Pascal News." (\*78/10/5\*)

Robert E. Rogers, Jr., 18625 Azalea Dr., Derwood, MD 20855: "I have received a copy of the University of Bratislava Pascal-b compiler for CDC 3500 Machines. We have been using it for only a short time and are attempting to compile a list of differences between this implementation and the UCSD Pascal. Hopefully by early spring we'll have something ready." (\*79/1/1\*)

Antti Salava, Munkkiniemi Puistorie 17A 13, SF-00330 Helsinki 33, Finland: "...University of Helsinki, where I was implementing Pascal-HB compiler on Burroughs B6700. It's been running now a couple of years without any fatal crashes." (\*78/8/28\*)

John M. Smart, Smart Communications, Inc., 866 United Nations Plaza, New York, NY 10017: "WANTED - conversion program or part time programmer, capable of converting programs in Burroughs extended ALGOL for B6700 into Pascal for PDP-11 or other systems, including B6700." (\*79/8/1\*)

Edward R. Teja, EDN, Cahners Publishing Company Inc., 221 Columbus Ave., Boston, MA 02116: "EDN is preparing to write an article dealing with the current interest in Pascal. Our intention is to look at both the historical and contemporary aspects of the situation; we want to put the situation into its proper perspective." (\*78/12/15\*)

M. Thornbury, Totalisator Agency Board, P. O. Box 3645, Wellington, New Zealand: "The N.Z. TAB are presently designing a large-scale wagering system utilising INTERDATA computers. We originally decided to use the RATFOR preprocessor as a front end to the FORTRAN compiler, but feel that FORTRAN VII does not have a sufficient instruction set to perform certain functions efficiently. We would therefore like to write our software in Pascal if we can locate a compiler presently running on an INTERDATA 8/32." (\*79/3/13\*)

Bob Wallace, Microsoft, 10800 NE 8th, #819, Bellevue, WA 98004: "Microsoft is developing a microcomputer Pascal compiler." (\*79/1/18\*)

Marie Walter, Scientific-Technical Book and Copy Center, 17801 Main St., Suite-H, Irvine, CA 92714: "...I am also enclosing our current bibliography on Pascal which has proved very popular. CIT has been distributing it with their literature on the Microengine and I get calls from all over the country from people just getting into Pascal. Item 3: I

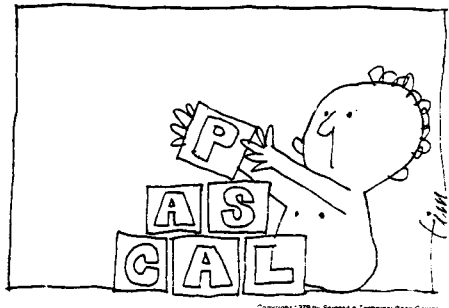
thought you might be interested in our Pascal tee shirts which we just started turning out. They come small, medium, large and can be on any background. \$4.95 per." (\*79/3/23\*)



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by publishers

in California add 6% sales tax  
mail orders add \$1.50 postage



Allen A. Watson, The Record, 150 River St., Hackensack, NJ 07602: "The Record (a newspaper) is not currently using Pascal on our 370/138s, but we are considering doing so in view of a possible move in the near future to other mainframes. So what we are looking for is general information about Pascal, advantages vs. other languages--that kind of thing." (\*79/3/2\*)

Robert Williams, MicroMouse Enterprises, Box 69, Hollywood, CA 90028: "I am building two minicomputers; the first of which was up-n-running earlier this year: a DEC LSI-11 with 20 kwords RAM and two floppy drives. The second is equally powerful (or maybe more so); it is the Alpha Microsystems AM-100. Pascal is to be the main software link between them. I have not yet obtained any code, altho I have the AlphPascal Programming System users reference manual which is a bargain at \$7.50. I believe the source was from UC San Diego." (\*78/10/6\*)

D. J. Yates, Botany Dept., University of Queensland, St. Lucia, Qld, Australia 4067: "I am running two North Star Horizons. Don't yet have Pascal-but it is on order. Very pleased with the Horizons." (\*79/3/14\*)

Earl M. Yarner, 195 Varick Rd., Newton, MA 02168: "...Hewlett-Packard presently supports FORTRAN and assembler but I hear rumours that they are working on adding Pascal. I am afraid that they will take a long time to get ready, so I would like to put Pascal 'on-line' myself, hopefully within the next year. Any advice or assistance that you or any other member of the group can give me would be appreciated." (\*79/3/19\*)

## Pascal in the News

ACADS Newsletter (The Association for Computer Aided Design Limited, in Australia), No. 19, December 1978: "PASCAL-Everybody's Language?" A short note on the growing popularity of Pascal, the availability of compilers, and how to get the Australian Atomic Energy Commission IBM OS/ compatible compiler.

AEDS MONITOR, Apr/May/June 1979: "Basic Thoughts on BASIC", on the use of BASIC as a teaching language. The author sees BASIC as a bad choice, sees hope with possibly Pascal, and would like to see the fundamentally important things involved in teaching programming be brought out.

Australian, July 24, 1979: "Pascal Program" announcing the release of the Pascal Validation Suite by Professor Arthur Sale at the University of Tasmania.

Business Week (industrial edition), April 23, 1979, pg 46: "Computers Rush to Talk to Pascal" covers the growing use of Pascal by major manufacturers. "Pascal is now the odds-on favorite to become the dominant language for microprocessors" says the article along with many other reasons for making the switch to Pascal.

Byte, September 1978, pg.71: An ad for Northwest Microcomputer Systems NMS 85 Series which uses a likeness of Blaise Pascal as its drawing point. Needless to say, Pascal is offered with the machine.

Byte, October 1978, pg.129: An ad for a new book entitled "A Concurrent Pascal Compiler For Microcomputers", by Alfred C. Hartmann.

Byte, November 1978, pg.142: A letter entitled "READER Cs PASCAL ALTERNATIVE", Which is one reader's comparison of C and Pascal.

Byte, December 1978, pg.178: An ad for Cyber-Score Inc, Pontiac, Michigan, offering Pascal software, mainly business-oriented.

Byte, February 1979, pg.185: A HELP WANTED ad for Fischer and Porter, Warminster, PA, for software engineers with among other qualifications, a knowledge of Pascal.

Byte, March 1979: A letter critiquing the article "Creating a Chess Player" in the October 1978 issue, which was part of a series of articles on a chess program written in Pascal.

Also an ad for a Pascal Engine, from Cutting Edge of Technology, pg.78.  
pg.107: A short note: "More companies jumping on the Pascal bandwagon".  
pg.59: an ad for another implementation of Pascal, on Control Systems, Inc. UDS 470. It says that Pascal has been used on their machines to control grain elevator operations.  
pg.237: An ad for Oregon Software's OMSI Pascal, and how to get it.

Byte, April, 1979, pg.239: "Pascal versus Basic...", an article comparing Pascal to BASIC.

Byte, May, 1979, pg.20: An ad for Western Digital's 16-bit Pascal Microengine.  
pg.57: An ad announcing Pascal for the North Star Horizon.  
pg.118: A note that Microsoft plans to announce a Pascal Package plus a note about the U.S. Joint Pascal Standards Committee.  
pg.224: A letter which opposes the bundled packaging of Pascal on microcomputers, with UCSD Pascal as its target.

Byte, June 1979, pg.130: 2 short notes, one about Pascal for the 6800 and another about the DOD's Pascal-like language, ADA.  
pg.194: An article which mentions an APL interpreter written in Pascal.  
pg.202: An ad for "Tiny Pascal" for TRS-80 and North Star from: Supersoft, POB 1628, Champaign, IL 61820.

Byte, July 1979: In the section NYBBLES, an article about the "TINY Pascal Compiler", which has now been rewritten in 8080 assembly language. The compiler is based on the one published in earlier issues of Byte.  
pg.146: An ad for Technology System South's (Loris, SC) Pascal Microengine.  
pg.169: An ad for TRS-80 Pascal (a version of UCSD Pascal), available from the FMG Corporation, POB 16020, Fort Worth, TX 76133.  
pg.239: An ad for a Pascal compiler for the Zilog Z80. The claim is that it "is often twenty times as fast as UCSD's implementation". Available from: Ithaca Audio, POB 91, Ithaca, NY 14850.  
pg.240: An announcement for M6800 Pascal from Central Systems (Williamsburg, VA).

Central Scientific Computing Facility Computer Newsletter(Brookhaven), Volume 18,no. 7, pg.110: A note mentioning a 7600 version of Pascal installed on MFZ, which is essentially the same as Pascal version 1 on the 6600.

Computer Design, October 1978, pg.188: "CPU Interfaces Processor to S-100 Bus, Providing 16-Bit Minicomputer Power and Pascal", an announcement that there is available to the user of Marinchip Systems M9900 CPU board, which utilizes Texas Instruments TMS9900 processor, both concurrent and sequential Pascal. Both compilers are converted from those developed by Per Brinch Hansen. Marinchip Systems is located at: 16 Saint Jude Rd., Mill Valley, CA 94941.

Computer Design, March, 1979, pg.179: "Pascal Adaptation to Development Center Will Speed Programming", American Microsystems will support Pascal on its MDC-100 product line.

Computer Weekly, November 9, 1978, pg.7: "Now National Opts for Pascal, the People's Language", an article about National Semiconductors decision to support Pascal and what National considers to be the advantages of Pascal.

Computer Weekly, May 24, 1979: "Data General Offers Pascal" Data General's Micron, an operating system for their 16-bit MicroNova, which comes with a Pascal compiler.

Computer Weekly, May 31, 1979: "DEC Pascal for VAX" about a soon-to-be-released native mode Pascal compiler for the VAX-11/780 by DEC and the University of Washington, plus the fact that the University of Adelaide, Australia, ordered 3 VAX machines partly because of the availability of the compiler.

Computer Weekly, (Pacific) August 10-16, 1979: Letter by Arthur Sale in response to a quote from Cobol pioneer Grace Hopper, 'Cobol has knocked PL1 dead and it will do the same to Pascal'. Professor Sale asserts 'that Pascal is not a "fad"'.

Computerworld: (Many issues) ads for Oregon Software (OMSI) PDP-11 Pascal.

Computerworld, February 12, 1979: An ad for Sperry-Univac, Minicomputer Systems, introducing SUMMIT. Pascal is the headlined language that goes with the system although there are other languages available.

Computerworld, February 26, 1979: "Seminar to Consider Pascal Programming" announcing a seminar "Pascal Programming for Mini- and Microcomputers" to be held April 23-27, 1979.

Computerworld, March 12, 1979, pg.99: A want-ad for programmers at Sperry-Univac which mentions of Pascal as parts of the qualifications.

Computerworld, March 19, 1979: "Pascal Now on Level 6 Mini" about the availability of an extended Pascal compiler for the Honeywell, Inc. Level 6 minicomputers. The Pascal has shown programming time reduced by a factor of three on small to medium sized programs and up to 10 times for large programs compared to FORTRAN, COBOL, or assembly language.

Computerworld, March 26, 1979: "Academic-Industrial Union Ends in VAX Pascal" about the University of Washington and DEC's cooperative effort to produce a Pascal compiler for the VAX-11/780.

pg.51: "Pascal Ready for Eclipses under AOS", about the availability of a Pascal compiler from Gamma Technology Inc. , for use on large scale Data General Corp. Eclipse minicomputers running under AOS. Also, on the same page "Package Backs PDP=11 Transaction Processing", about Cytrol's (Edina, MN) CSS-11 package for PDP-11's providing transaction, database and communication processing allowing applications programs written in Pascal.

Computerworld, May 14, 1979: "DOD Stops Work on 'Red' Gives Go Ahead to 'Green'", about the progress of the DOD's study of the 'Red' and 'Green' languages. Green was chosen and is to be called ADA, after Lady Ada Lovelace, who assisted Charles Babbage.

Computerworld, May 28, 1979: "Languages, Operating System Available for DG Micronovas", about Data General Pascal for the MicroNovas, plus a want ad for programmers at Control Data in St. Paul, MN who must know Pascal among other qualifications.

Computerworld, July 16, 1979, pg.41: "Lawsuit Could Set Dangerous Precedent", an editorial which mentions the use of Pascal over FORTRAN.

Computerworld, July 23, 1979: "Apple Offers Users Plug-In Pascal Option", about the "Language System" on Apple computers, a plug in option for the Apple-II that allows users to develop software in Pascal. The package is available at your Apple dealer.

Computerworld, August 6, 1979: "Pascal Now Available for Zilog Z80 Systems", announcing Pascal for Zilog Z80 systems, available from Zilog at 10340 Bubb Road, Cupertino CA 95014.

Computerworld, August 13, 1979: "Pascal/8002 Development Package Debuts", an announcement of the Pascal/8002 Universal Program Development Package, a software product designed for

use with the Tektronix, Inc. 8002 Microprocessor Development Laboratory, by the Pascal Development Co., Suite 205, 10381 S. DeAnza Blvd., Cupertino, CA, 95014.

Computerworld, August 20, 1979: "Pascal Runs on DG Units", announcing the first in a series of five implementations of Pascal for use on Data General Minicomputers, developed by Rational Data Systems, 245 W. 55th St, NY, NY 10019.

Computerworld (Australian), August 3, 1979: Announcement of the availability of the Validation Suite for Pascal, developed in Australia and England. "Validation Suite for Pascal".

Computing News (Computing Services, Northern Illinois University), December 1978: An announcement of the installation of the University of Manitoba Pascal compiler for the IBM 360/370.

Computing Europe, April 5, 1979, pg.1: "Pascal Draft Breaks US Language Grip", describes the British Standards Institutions leadership under Tony Addyman for an International Standard Pascal.

Computing Europe, March 29, 1979: "Pascal is Top of the Class", concerning the use of Pascal for trainee programmers. The results of a study have shown Pascal to be a justified choice for a language to learn programming.

Computing Europe, April 19, 1979: "Floreat Pascal" a letter from C. A. G. Webster referencing the previous article 'Pascal is top of the class', and after 6 years and 500 students agrees wholeheartedly.

Computing Europe, May 3, 1979: An article on the rapid acceptance of Pascal in Australia.

Computing Europe, May 24, 1979: "DG Offers 'Fast Pascal' on two Major Systems", announcement about an across the range compiler for Micronovas to Eclipses, which is according to a spokesman '...not much of a gamble. If you look at high level programming languages available on mini-based machines, there is not much choice'.

Computing Europe, August 6, 1979: "Australia Loves Pascal", a short note about the rise in the use of Pascal in Australia.

Data Communications, March 1979, pg.16: "High-level language attracting new commercial users" An article concerned with using Pascal for data communications, with Sperry Univac's Summit operating system used as an example.

Datamation, July 1979: "Pascal Power", a collection of 4 articles on Pascal, dealing with Pascal's future, its use by the DOD, Pascal's structure, and its uses with micros and minis.

Datamation, August 1979, pp.166-172: Announcements for Apple II Pascal option, Zilog's new Z80 Pascal compiler, and Digicomp Research's new Pascal 100 system.

Diebold Research Program Document Number T23-V1113: Titled "Trends in Systems Software: 1985, 1990, 1995", on page 30 has a short shot at Pascal. The document is marked "Confidential-For Client Use Only", so I did not take the liberty of copying it. (John K. McCandliss)

Dr. Dobb's Journal of Computer Calisthenics and Orthodontia, February 1979, no.32, pg.29: A fairly complete Pascal bibliography by Mike Gabrielson.

Electronic Engineering Times, May 28, 1979, pg.10: An article about Pascal being used on 3 major minicomputers by DEC, Data General, and Texas Instruments.

Electronic Engineering Times, June 25, 1979, pg.30: "Pascal Touted by Engineers As Help For High Software-Development Costs, But Not Seen As Panacea", which discusses the advantages of Pascal to engineers, and also discusses the flaws of Pascal implementations at this point.

Electronic Engineering Times, Aug 20, 1979: "Plethora of PASCAL Possibilities Provided for Data General Users", gives information on how to obtain Pascal for Data General's



advanced operating system, developed by Rational Data Systems.

Electronics, December 21, 1978, pg.6: "Obeisance to Pascal Inventor", a letter from Niklaus Wirth, explaining his choice of the name Pascal for the language.

Electronics, June 7, 1979: The cover article "Putting Pascal to Work", is about the adaptation of Pascal to Texas Instruments machines. Part 2 of this article covers the microprocessor version of T1 Pascal.

Electronics, August 16, 1979, pg.33: A notice that Softech has acquired control of UCSD Pascal.

Florida State University Computer Center Newsletter: A note that release 2.3 of the E.T.H. Pascal compiler is going up on June 11, 1979.

ICCC (Imperial College, London Computer Center Newsletter), March 1979: "Programming Notes-Pascal", a short note about the increased use of Pascal at ULCC, followed by a few references to Pascal.

Intelligent Machines Journal, February 28, 1979: "New Micro Offers Pascal in ROM for OEM's", another announcement for CSI Microsystem's (Kansas City, KS) UDS 470 computer with Pascal.

Intelligent Machines Journal, April 18, 1979, pg.8: "Pascal Advancement Society of California", an announcement of a group for the exchange of information about Pascal. It should be noted that this group is not PUG California style, but rather a local group that hopes to have its members cooperate to obtain Pascal systems and programs. For information contact Mark Gang, 2262 Fairvalley Ct., San Jose, CA 95125.

Interface Age, June 1979: The first in a series of articles entitled "The Pascal Notebook", the others following in July and August. The article is a tutorial on Pascal and may be of interest to those just learning programming, in particular Pascal, and especially to students who are for the first time learning to program in Pascal.

MACC NEWS #3(University of Wisconsin, Madison Academic Computer center) January 1979: An announcement of a new UW-Pascal release for the Univac 1108.

MICC Digit, (Middle Illinois Computer Cooperative Newsletter) January 1979, pg.3: An answer to the question "How do I format output from a PASCAL program?"

Minicomputer News, November 9, 1978, pg.24: "LSI Chip Set Directly Executes 16-Bit Pascal Application Code", another announcement about Western Digital's Pascal Microengine.

Minicomputer News, February 1, 1979, pg.20, pg.30: "Sperry Opens V77 Minis to Pascal", and "Micro Offers Pascal in Prom", another CSI minicomputer announcement.

Mini-Micro Systems, November 1978, pg.10: "Jumping on the Pascal Bandwagon", an article what many companies are doing with Pascal, in this case all manufacturers of micros.

Mini-Micro Systems, March 1979: "Pentagon to Debut ADA; Commercial Vendors Wary", about commercial vendor reaction to ADA.

Mini-Micro Systems, May 1979, pg.10: A letter entitled "Disenchanted with Pascal", in reaction to the above mentioned article "Jumping on the Pascal Bandwagon", which claims that Computer Automation has a better language (ALAMO) than Pascal, and that Pascal is obsolete.

The OEM Computer Newspaper, November 7, 1978: "Pascal Takes Off", a short article about the success of Pascal.

Sandia Computing Newsletter, No.05/1979, May 1, 1979: "Pascal on NOS", an announcement that Pascal-6000 is available on NOS for for the CDC 6600.

Scientific American, August 1979: Two ads, one for Oregon Software (OMSI) and their use of Pascal, the other an ad for the Apple Computer, which mentions that Pascal is available to users of the Apple.

Silicon Gulch Gazette, March 28, 1979, pg.25: "Pascal: An Aggressive Young Language the Way Up", announcements for Pascal presentations at the Fourth Annual West Coast Computer Faire in San Francisco, May, 1979: Tom Pittman, a user of Western Digital's Pascal Microengine, Jack Sharp for Varian Research, and Marie Walter on the Midwifing of a Pascal Standard.

Small Systems World, August, 1979, pg.32: An announcement for Pascal accounting software by P.S. Inc, Fargo, ND.

UMD Computer Center Newsletter (U of Minnesota, Duluth), February, 1979, pg.5: An announcement that Pascal-6000 Release 3 has been installed on their Cyber 171.

WSU CCN(Washington State University Computer Center Newsletter), April 3, 1979, pg.4: "Pascal Under the Batch Monitor", a notice that Pascal 8000 is now available on the Amdahl 470.

## Pascal and Teaching

We've received good response to this new section; unfortunately, in spite of 3 good contributions for this issue, we decided to postpone them to issue #17 so that we can save space here. Sorry.

## Ada (ALIAS DoD-1) (ALIAS Green)

Many Pascal Users are asking about Ada. How good is it? Is it just like Pascal only better? When will we see it? Well, back in the heart of Pascal country we have analysed Ada, and we regret to say that its resemblance to Pascal is so slight that we may not devote any more space in Pascal News to it after this. Ada is a very large and complex language, which should be illustrated by the following statistics. There does not exist as yet any compiler for it, and what such an implementation would look like is not certain. It has the declaration-before-use feature of Pascal which was intended to allow one-pass compilation, but rumour has it that seven passes through the symbol-table may be necessary to resolve potential ambiguities of the overloading. The resolution of overloading ambiguity is too complex to document, so probably programmers will have to leave that to the compiler to resolve. Who wants to go back to languages that can't be understood?

To quote Charles Bass, general manager of Zilog's Microcomputer Systems Division: "Ada will become a millstone around our necks" (Mini-Micro Systems, March 1979).

Edsger Dijkstra prophetically said that he hoped that Pascal was not better than all its successors. He may have been right to worry.

Size of Defining Document  
 190 pages  
 (Pascal J&W = 35 pages, ISO draft standard = 43 pages)

Number of Reserved Words  
 62  
 (Pascal = 35)

"Features" of Ada  
 Generic procedures, overloading of identifiers and operators, confusing abstraction and representation for real types, much syntactic sugar, too many ways to do the same thing. No sets! No files or sequences in the Pascal sense.  
 Yet another bizarre set of operator precedence rules. Optional omission of actual parameters (coupled with two sets of parameter association syntax and default values). Ability to freely specify representation of abstract notions without separation of concerns.

**Purpose of Ada**

Acceptance by DoD as a uniform programming language for real-time and other applications. So far only the US Army have shown interest, even though the very complexity of Ada should appeal to the military mind.

Perhaps the biggest shame is that a beautiful name like Ada, and a woman like Lady Lovelace, should be associated with such an insensitive creation.

Letter to the Editor,  
Australian Computer Bulletin.

27th August, 1979

Programming Language Ada

Keen watchers of the U.S. Department of Defence will have been observing the progress of the High Order Language Commonality program. Starting in 1975 and progressing through a series of specifications known as Ironman, Steelman, etc, the U.S. DoD has now arrived at a draft of a new programming language called *Ada* after Ada Augusta, Lady Lovelace, the first programmer.

A copy of the specification, for those interested, is available from

Association for Computing Machinery, Inc.,  
P.O. Box 12015,  
Church Street Station,  
New York, NY 10249 (US \$ 22.00)

as Volume 14, Number 6, June 1979, Parts A & B of SIGPLAN Notices.

Ada is stated as being heavily influenced by Pascal. I must say, however, that I found this heavy influence rather hard to detect on reading the documents: to me it seems to clearly and definitely belong to the Algol 68, PL/I or C class of languages in size, features, and basic principles. Apart from a few concepts, the resemblance to Pascal is more like a parody.

The Department of Defence have, of course, solicited comments on the draft. Since it would be very improbable that they would change it substantially, it seems likely that a slightly modified Ada will become a Defence standard in 1980. This means that it will be important in the U.S.: I now have considerable doubts that its influence will be as widespread elsewhere (or in industry) as some people have predicted. However I may be wrong - there is no limit to the extent to which we ignore flaws, and Fortran 77 stands as mute witness to that fact.

Arthur Sale,  
Professor of Information Science.

**Books and Articles**

{Unfortunately I did not collect, forward, or organize materials in time for Rich Stevens to have the slightest chance to produce his regular section. Look for a burgeoning section in #17.}

Publishing success story

The *Pascal User Manual and Report* by Jensen & Wirth has now sold more than 60,000 copies. We understand that this includes a bulk purchase of 10,000 copies by Apple Computer Inc, and a similarly large quantity by National Semiconductor.

Also in the big selling stakes is *Programming in Pascal* by Grogono, which has sold over 35,000 copies, with a single order of 10,000 copies going to Motorola.

Book Reviews

We understand that Jan Hext, Basser Department of Computer Science, University of Sydney, New South Wales 2006, Australia, has written a comprehensive review of all the Pascal textbooks now available which is to appear in a special issue of an Australian journal called *Microsystems*. We hope to get permission to reprint Jan's article in *Pascal News*, but in the meantime we can only extract the citation and one column of a table of comparisons.

Introductory books:

- Bowles, K.L., *Microcomputer Problem Solving using Pascal*, Springer-Verlag, New York, 1977, 563 pages, \$A 11.45
- Conway, R.W., Gries, D. and Zimmerman, E.C., *A Primer on Pascal*, Winthrop Publishers Inc., Cambridge, Mass., 1976, 433 pages, \$A 14.75
- Grogono, P., *Programming in Pascal*, Addison-Wesley Publishing Inc., 1978, 359 pages, \$A9.95
- Jensen, K. and Wirth, N., *Pascal User Manual and Report*, Springer-Verlag, Berlin, 1974, 170 pages, \$A 8.70
- Kieburztz, R.B., *Structured Programming and Problem-Solving with Pascal*, Prentice-Hall Inc., Englewood Cliffs, 1978, 365 pages, \$A 14.75
- Rohl, J.S. and Barrett, H.J., *Programming via Pascal*, Cambridge University Press, in press, about 250 pages.
- Schneider, G.M., Weingart, S.W. and Perlman, D.M., *An Introduction to Programming and Problem-Solving with Pascal*, Wiley & Sons Inc., New York, 394 pages, \$A 21.25 (hard-cover), \$A 13.15 (soft cover).
- Webster, C.A.G., *Introduction to Pascal*, Heyden, 1976, 129 pages, \$A 13.75
- Welsh, J. and Elder, J., *Introduction to Pascal*, Prentice-Hall Inc., Englewood Cliffs, in press, about 220 pages, \$A 13.95
- Wilson, I.P. and Addyman, A.M., *A Practical Introduction to Pascal*, MacMillan Press Ltd., London, 1978, 148 pages, \$A 9.95

Advanced books:

- Alagic, S. and Arbib, M.A., *The Design of Well-Structured and Correct Programs*, Springer-Verlag, New York, 1978, 292 pages, \$A 13.60
- Coleman, D., *A Structured Programming Approach to Data*, MacMillan Press Ltd, London, 1978, 222 pages, \$A 13.75
- Wirth, N., *Systematic Programming: An Introduction*, Prentice-Hall Inc., Englewood Cliffs, 1973, 169 pages, \$A 23.75
- Wirth, N., *Algorithms + Data Structures = Programs*, Prentice-Hall Inc., Englewood Cliffs, 1976, 366 pages, \$A 26.95

Coverage of books, taken from review

First author	Coverage of Pascal
Bowles	fair
Conway	poor
Findlay	good
Grogono	very good
Jensen	good
Kieburztz	poor
Rohl	good
Schneider	fair
Welsh	very good
Wilson	good
Alagic	fair
Coleman	poor
Wirth(1973)	fair
Wirth(1976)	good

## Conferences and Seminars

I apologize for the negative impact that tardiness has on this section. John Knight, for example has now been stale-dated twice regarding his PUG-ACM SIGPLAN conference session announcements. Below we have reports from the PUG/SIGPLAN meeting at ACM '78, the DECUS New Orleans meeting, the Australian Computer Science Conference. Next time I'll have the summaries from the French AFCET sub-group meetings on Pascal (belatedly - sorry). First, though we have news of seminars presented to teach Pascal primarily to professionals in the industry, followed by a list of upcoming conferences.

### Seminars

The Polytechnic Institute of New York's Institute for Advanced Professional Studies is presenting seminar/workshops on Pascal Programming for mini and microcomputers in Boston on October 22-26, 1979 and in Palo Alto on December 3-7, 1979 for \$600. For more information contact George Poonen at (617) 493-3537 or to register write to: Institute for Advanced Professional Studies, One Gateway Center, Newton, MA 02158. Phone: (617) 964-1412 (Donald French)

Vince Giardina by now must have information about a series of IEEE workshops on Pascal. He works out of the IEEE central office in New York City but the phone number I have is (201) 981-0060 x174 or 175 (which is in New Jersey). He was also looking for instructors for this course.

Integrated Computer Systems, Inc. has a "learning tree" (TM) 4-day course on "Pascal: Programming in the Structured Language". The course dates are: October 9-12 in San Diego, October 16-19 in Washington, DC, November 6-9 in New York City, November 13-16 in Boston, and December 4-7 in Los Angeles. A related set of courses are being taught on "Structured Programming - Scientific and Engineering Applications". The Pascal course is \$795. To enroll write to: Integrated Computer Systems, Inc., 3304 Pico Blvd. P.O. Box 5339, Santa Monica, CA 90405. Phone: (213) 450-2060 or to 300 N. Washington St. Suite 103, Alexandria, VA 22314. Phone: (703) 548-1333. Ken Bowles is the course instructor.

Software Consulting Services is also offering seminars by Richard and Martha Cichelli:

### **Software Consulting Services**

901 Whittier Drive  
Allentown, Pa. 18103  
[215] 797-9690

July 12, 1979

Dear Andy:

We have planned the following seminars which may be of interest to your readers.


October 17-19, 1979

A seminar/workshop entitled "An Introduction to Pascal Programming". Taught by Richard J. Cichelli and Martha J. Cichelli. Includes hands-on Pascal programming workshop sessions as well as group and individual instruction. The class will emphasize learning the basics of good programming in Pascal and learning them right! Class size is limited. Three days. For more information contact Software Consulting Services, 901 Whittier Drive, Allentown, PA 18103 (215) 797-9690.

November 14-16, 1979

A seminar/workshop entitled "Advanced Programming Techniques Using Pascal". Taught by Richard J. Cichelli and Martha J. Cichelli. Requires a basic knowledge of the Pascal language. This class will refine the skills of Pascal programmers and teach them how to build a comprehensive and effective Pascal-based software development environment. The emphasis will be on significant programming exercises blended with group and individual instruction. Class size is limited. Three days. For more information contact Software Consulting Services, 901 Whittier Drive, Allentown, PA 18103, (215) 797-9690.

Sincerely,

  
Martha J. Cichelli

### Australian Seminars

Arthur Sale told us of two seminars in Australia that he had been involved with. One was a five-day intensive seminar held by his Department at the University of Tasmania, and the other was a two-day professional development seminar organized by the Australian Computer Society in Melbourne, Victoria. Pascal News acquired about 60 new members from these seminars, and even more people were exposed to Pascal's elegance.

Arthur also said that he had given part of an evening seminar with Michael Rooney of the Boston Systems Office which was attended by around 450 engineers involved in microprocessor applications in Australia. The interest in Pascal was sufficiently great that the University of Tasmania was planning another seminar addressed to professional programmers for February 1980.

### Upcoming Conferences

IFIP in 1980 will be held one week in Tokyo and the next week in Melbourne Australia. We don't know of any attempts at a Pascal "interest group" session, but we're sure one will spontaneously occur.

The Fall DECUS meeting should be held in San Diego, and John Barr expects that issues such as compiler performance, Pascal standards, implementation techniques and Modula/Concurrent Pascal will be discussed.

Below is the announcement for ACM '79. If you have a talk, contact John Knight anyway even though you will be reading this late.

Dear Andy:

An informal evening session devoted to PASCAL will be held at the 1979 ACM conference which will take place October 29-31, 1979, in Detroit, Michigan. The session will be sponsored jointly by SIGPLAN and the PASCAL Users Group, and will be very similar to the session held at the 1978 ACM National Conference. The purpose of this session is to allow all conference attendees who are interested in PASCAL to get together and interact.

This is not a technical session in the usual sense. However, in order to convey the most information, it will consist, at least in part, of a series of short presentations (i.e., approximately 10 minutes) on PASCAL related topics. A presentation can address just about anything related to the language and its software; e.g., experience with PASCAL, tools for PASCAL programming, implementation, etc. Anybody who is planning to attend ACM '79 and who is interested in making a presentation should send a short description of what they will discuss by September 1 to:

