

PASCAL USER'S GROUP

USER'S  
GROUP

# PASCAL NEWSLETTER

NUMBER 6

COMMUNICATIONS ABOUT THE PROGRAMMING LANGUAGE PASCAL BY PASCALERS

NOVEMBER, 1976

## TABLE OF CONTENTS

#	0	POLICY	#
*			*
#	1	EDITOR'S CONTRIBUTION	#
*			*
#	5	HERE AND THERE WITH PASCAL	#
*			*
#	5	News	#
*	8	Conferences	*
#	9	Books	#
*	10	Errata	*
#	11	Back Issues	#
*	12	Membership Roster	*
#	33	ARTICLES	#
*			*
#	33	"Indexed Files"	#
*		- S. Knudsen	*
#	34	"The Need for Hierarchy and Structure in Language Management"	#
*		- G. Michael Schneider	*
#	35	"On the Suitability of a Pascal Compiler in an Undergraduate Teaching Environment"	#
*		- A. M. Addyman	*
#	36	"Pascal Potpourri"	#
*		- Richard J. Cichelli	*
#	42	"The Case for Extending Pascal's I/O"	#
*		- Michael Patrick Hagerty	*
#	45	"General Thoughts on Pascal Arising out of Correspondence Between Southampton and Tasmania"	#
*		- Arthur Sale	*
#	48	OPEN FORUM FOR MEMBERS	#
*			*
#	64	IMPLEMENTATION NOTES	#
*			*
#	64	Checklist	#
*	65	Portable Pascals	*
#	70	Compilers and Software Tools	#
*			*
#	91	ALL PURPOSE COUPON	#
*			*
#			#

# POLICY -- PASCAL USER'S GROUP AND PASCAL NEWSLETTER

## USER'S GROUP POLICIES

Purposes - are to promote the use of the programming language Pascal as well as the ideas behind Pascal. Pascal is a practical language with a small, systematic and general purpose structure being used for:

- \* teaching programming concepts
- \* developing reliable "production" software
- \* implementing software efficiently on today's machines
- \* writing portable software

Membership - is open to anyone: particularly the Pascal user, teacher, maintainer, implementor, distributor, or just plain fan. Institutional memberships, especially libraries, are encouraged. Membership is per academic year ending June 30. Anyone joining for a particular year will receive all 4 quarterly issues of *Pascal Newsletter* for that year. (In other words, back issues are sent automatically.) First time members receive a receipt for membership; renewers do not to save PUG postage.

Cost of membership per academic year is \$4 and may be sent to:  
Pascal User's Group/ %Andy Mickel/University Computer Center/ University of Minnesota/Minneapolis, MN 55455 USA/ phone: (612) 376-7290  
In the United Kingdom, send £2.50 to:  
Pascal Users' Group/ %Judy Mullins/Mathematics Department/The University/ SOUTHAMPTON/S09 5NH/United Kingdom/ (telephone 0703-559122 x2387)

## NEWSLETTER POLICIES

The *Pascal Newsletter* the official but informal publication of the User's Group. It is produced quarterly (usually September, November, February, and May). A complete membership list is printed in the November issue. Single back issues are available for \$1 each. Out of print: #s 1,2,3 #4 available from George Richmond/Computing Center/U of Colorado/Boulder/80309

The contribution by PUG members of ideas, queries, articles, letters, and opinions for the *Newsletter* is important. Articles and notices concern: Pascal philosophy, the use of Pascal as a teaching tool, uses of Pascal at different computer installations, portable (applications) program exchange, how to promote Pascal usage, and important events (meetings, publications, etc.).

Implementation information for the programming language Pascal on different computer systems is provided in the *Newsletter* out of the necessity to spread the use of Pascal. This includes contacts for maintainers, documentors, and distributors of a given implementation as well as where to send bug reports. Both qualitative and quantitative descriptions for a given implementation are publicized. Proposed extensions to Standard Pascal for users of a given implementation are aired. Announcements are made of the availability of new program writing tools for a Pascal environment.

Miscellaneous features include bibliographies, questionnaires, and membership lists. Editor's notes are in Pascal style comments (\*\*).

WRITTEN INFORMATION FOR THE *Newsletter* IS EASIER TO PRINT IF YOU TYPE ALL MATERIAL 1½ OR DOUBLE SPACED SO THAT IT IS IN "CAMERA-READY" AND "PHOTO-REDUCIBLE" FORM FOR THE PRINTER. REMEMBER, ALL LETTERS TO US WILL BE PRINTED IN THE *Newsletter* UNLESS THEY CONTAIN A REQUEST TO THE CONTRARY. AN OVERRIDING GUIDE SEEN IN AN OLD MAD MAGAZINE APPLIES: "all the news that fits, we print!" - Andy Mickel, editor, John P. Strait, associate editor. Nov. 10, 1976.

POLICY



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PART I - Standards

Wow! It took only one issue of PUG's Pascal Newsletter to bring on an avalanche of "Where do we go from here?"s! It was first put clearly in print with a short note in PUGN #3 by George Poonen who noted that various implementations had diverged and that a standard was necessary. Now we have: Tony Addyman, Frank Brewster, Charles Hedrick, and Willett Kempton (see News in HERE AND THERE); Mike Schneider, Rich Cichelli, and Arthur Sale (see ARTICLES); and Steve Young, Tony Addyman (again), Duke Haiduk, Judy Mullins, Arthur Sale (again), and Tim Bonham (see OPEN FORUM) all discussing the topic of standards. The concern, I believe, is out of our desire to see Pascal succeed. We are in a computing environment which is not altogether friendly to Pascal. We want to be able to respectably use Pascal in the future.

I have been very confused on the subject of Pascal standards in the past. Mike Schneider and Rich Cichelli have (I think) straightened me out. You see, I thought we already had a Standard Pascal, with the Revised Report and the Axiomatic Definition. These two concise and elegant (although not perfect - but yet what do you want?) documents were produced by Niklaus Wirth and his associates and coworkers. And I believe that Pascal has merit because it was produced by a single man of the calibre of Niklaus Wirth, who (as evident from his work) profoundly understands programming language design, from linguistics to implementation. This one person could decide what to meld when meeting all of the design goals set out from the start.

I wanted to do what I could to call for adherence to what Niklaus Wirth called "Standard Pascal": ~~Over time, I increasingly appreciated what he had written in several articles. He pointed out for various reasons that "fancier features" had to be omitted in order to meet the design goals of a small and efficient system. Also that some aspects were best left undefined. And that other features were omitted with good reason to achieve the goal of providing a tool with which to produce reliable software (okay - you could call it: "protect the error-prone human programmer from himself or herself." It may not be pleasant, but experiencing is believing; a good dose of egoless programming goes well with this.) It goes without saying that Pascal is not the ultimate programming language, or perfect, or that it is all things to all people. All good so far.~~

EDITOR'S CONTRIBUTION

But then other events took place. The Revised Report suffered "revisionism": Nov., 1972, July, 1973, Dec., 1973, the User Manual and Report, first edition (1974), second edition, first printing (1975), and now the second edition, third printing (1976). How can one call for adherence to the "standard" when the same(?) "standard" keeps changing?

Also among the many ill-conceived suggestions for "improvements" to the language by users, there were some very few that seemed reasonable to dyed-in-the-wool Pascalers. There was no mechanism for sounding these out for worthiness and acceptance, save writing to Niklaus and Urs in Zurich. This has been very frustrating because we didn't know where we were heading. (What was Pascal's future destined to be according to its creators?) We were told on the one hand, "no more changes." We relaxed and said "fine." Then a revision came along and we felt cheated. We weren't kept informed of what other users had suggested, either.

Rich and Mike have pointed out that Pascal can't continue to be what Niklaus Wirth says it is. And that Andy Mickel can't arbitrarily restrain attempts to change it because 1) Andy fears destruction of the language by attempts to "save" it, or 2) Andy doesn't want them to destroy the essential simplicity of Pascal which is probably its most likely reason for success. They also pointed out that we don't have an officially accepted standard; a "political standard" if you will. Really, when that concept dawned on me it made sense. A major computer manufacturer, when choosing a common language for all its software development, democratically decided to pick the one that most of its programmers wanted to use. With the choice of language X 30%, Pascal version A 25%, Pascal version B 13%, and Pascal version C 27%, language X won by a plurality (and by default) and too bad - as we all can see. If we want Pascal to ultimately and completely succeed, we can't have this!

Now how do we resolve the conflict(s)? Many persons suggest a "PUG Standards Committee", and frankly, although I think committees are inherently evil, I don't see any better choice. The alternative at this point is to lower our expectations, quit striving for excellence, quit "dreaming the impossible dream" of seeing Pascal take over the majority of industrial and academic computing (wiping out Cobol and Fortran within our lifetimes). Then we could say regretfully - "wow, Pascal's nice, but..." as so many of our half-hearted supporters and critics do now.

I feel that: 1) we should continue to debate this topic; 2) a PUG Standards Committee when set up should be small (less than 8 members); 3) its charter be initially agreed on so as to limit its power; 4) within the committee's initial charge

\* This brings to mind two acronyms: John Easton's SHAFT or Society to Help Abolish Fortran Teaching, and Mitch Wand's ACS or the American Cobol Society - analogous in meaning to the American Cancer Society.

# EDITOR'S CONTRIBUTION

the action should be to get the Revised Report (User Manual and Report, Second Edition third printing) accepted as an official standard as is (even if only provisionally); 5) later the committee could recommend subsequent actions.

Look up the articles in this issue of PUG Newsletter by Mike and Rich with their excellent analyses of the current situation. Rich bluntly hints that many features are best left to separate software writing tools. In all honesty, I don't see how Arthur Sale can say in his October 22 letter to Judy Mullins, "Of course I agree that standard Pascal must be adhered to" and also say that it is best in specific cases to add features that all Burroughs Algol programmers are used to. Pascal was meant to be a departure from the past. See also the article "Experience from the Standardization of the SIMULA Programming Language", by Jacob Palme, SOFTWARE, Practice and Experience Vol. 6, No. 3 July-Sept, 1976, pp 405-409. (It seems that each issue of SOFTWARE, Practice and Experience always has some good articles for the practical programmer!)

We are indeed in a unique position in computer science history as people (rather than large organizations) responsibly influencing an influential language.

## PART II - Pascal User's Group and Pascal Newsletter

1) PUG has 516 members in 22 countries and 43 states. (We had 317 at last writing.) I'm sorry this newsletter is so late. But this year the November issue will have in it feedback to the September issue.

2) Ms. Judy Mullins and Prof. P. W. Barron of the University of Southampton have done us all a favor by creating a European distribution center for PUG newsletters and a clearing house for PUG memberships in the United Kingdom! Judy was concerned that members in the U.K. would not get fast mail service, while at the same time having to pay a relatively high exchange rate for \$4. We in fact had decided to send the first 2 newsletters (#5 & #6) air mail because we could afford it and Pascal needed the shot in the arm. What has transpired between Southampton and Minnesota is no less than 6 letters east to west and 5 letters and a phone call west to east on the subject of cheaper ways to send the newsletters (air freight, etc.) These 11 letters are not reproduced here; they mostly contained calculations and mechanics of mailing.

3) While we are on the subject of finances, I'm happy to report that we're doing just about right. We've been able to afford to send out 250 issues of #4, and do a large mailout requesting implementation information. We still plan to print and mail #7 and #8, so don't worry. The next sheet contains a breakdown:

516 members @ \$4	\$2064.00
8 members not paid yet	- 32.00
6 members for 2 years	24.00 extra
1 member for 5 years	16.00 extra
ABM + JPS contribution	29.00
	<hr/>
	\$2101.00 Total Assets

postage, mass mailings	\$ 52.00
refunds for overpayment	4.00
printing and mailing #5	487.10 (700 printed, 368 mailed)
buying 230 copies of #4	100.00 no bill for mailing yet
postage for #5 backissues	27.40 so far
printing newsletter titles	5.60
	<hr/>
	\$676.10 Total Expenses

Theoretical balance = 2101.00 - 676.10 = 1424.90

Cash on hand	\$ 77.76
PUG UCC Account	\$1353.30
	<hr/>
Actual balance =	\$1431.06

4) Backissues. See the section in HERE AND THERE. Our offer to send #4 to persons in North America who didn't already get one directly from George Richmond expired on October 2nd. We simply ran out. But we did buy time. And now the problem of trying to include information in the issue was in #4 is not so acute because #5, #6, and #7 will gradually make up for that. We will be updating nearly all the news which appeared in #4. So for those of you who joined after October 2nd and still want the newsletter #4, order one from George Richmond.

5) I apologize for announcing our policy of: "all the news that fits, we print" in the same issue that we put the policy into practice. We modelled the policy after SIGPLAN Notices. Feedback to Newsletter #5 has been mostly favorable; the unfavorable comments have been largely unwritten. Some heretofore unwritten comments went like this:

- "Your organization could be improved."
- "It was fun reading the News section in HERE AND THERE."
- "It's good to see the correspondence you had with Zurich."
- "It's taken a long time to get my newsletter in the mail."
- "The articles you printed weren't so hot."

6) Last issue we tried to plan events so that you would receive the newsletter at the beginning of September. But we didn't come close. Our cutoff date for material was supposed to be July 15, but it lagged to July 31. We began putting the newsletter together July 29. We were to have August 13 (and here's the bad news) 20 days later we got our 700 copies on September 7. We had it all in the mail September 9. In the U.S. we know (so far) that some arrived as late as October 21. This issue will probably arrive by Christmas (no kidding) but we began November 4 to put it together and we are going to press November 15 - much better than last time, except we have a late start. Our cutoff for material for this issue was originally October 1 but lagged to November 5. Issue #7 will probably be smaller as it will go to press probably before we get reaction to this issue. By being smaller, it also won't cost as much to print.

7) Offers to help. In #5, N. Solntseff and W. Richard Stevens offered to help with the User's Group. Now that some things have been established, several tasks are becoming clear. These are:

- . managing distribution of software writing tools for Pascal written in standard Pascal
- . managing distribution or cataloging of library and applications programs for Pascal written in standard Pascal
- . maintaining a bibliography on all publications about Pascal (including articles and books)

Any target

8) Two encouraging trends. First, with microprocessor interest spreading (real computer power to the people!) it is important to have a Pascal subset compete with BASIC in 16K. Mark Rustad understands this very well - see his Motorola 6800 description in IMPLEMENTATION NOTES. Mark would like to hear from those persons interested. Second, John and I have been getting lots of inquiries about Pascal and implementations in the form of phone calls and letters - with most of them from persons in industry. Predominate are small software writing firms and minicomputer companies. So next time someone says Pascal is dead, but it's not "real world" tell them that it's happening right now.

9) Thanks are due to all the people who have sent in information to print - that makes the newsletter. - Thank to John, Tim Bonham, Jim Miner, and Herb Rubenstein for helping put together this issue.

- Andy

November 14, 1976

ANNOUNCEMENT OF A PASCAL USERS' GROUP  
DISTRIBUTION CENTRE IN THE  
UNITED KINGDOM

AIMS

1. To expedite distribution of the P.U.G. Newsletter to the U.K. and the rest of Europe, the Near and Middle East and Northern Africa.
2. To collect memberships in P.U.G. from U.K. members avoiding high bank charges on transfers of £ to \$.

DISTRIBUTION

1. Central P.U.G. at Minnesota will send the original of the newsletter to Southampton for reprinting.
2. Newsletters will be mailed (second-class postage) from Southampton to members in Europe, the Near and Middle East and Northern Africa.

PASCAL USERS' GROUP MEMBERSHIPS

1. The address for U.K. Region memberships is

Pascal Users' Group  
c/o Judy Mullins  
Mathematics Department  
The University  
SOUTHAMPTON. SO9 5NH

(telephone 0703-559122 x2387)

2. Members can pay £2.50 by cheque or postal order to PASCAL USERS' GROUP (UK) at the above address, and will receive a receipt and member certificate directly.
3. Membership forms will be forwarded at short intervals to Minnesota (at least in time to catch the next newsletter); a copy is kept at Southampton.

AVOIDING CONFUSION

1. There is only one membership list and labelling program - Minnesota's.
2. Therefore anyone can join directly by writing to the U.S.A.
3. Using the U.K. Distribution Centre only saves money.
4. No matter how he/she joined, a member with an address in the U.K. will receive newsletters via Southampton.
5. All correspondence other than subscriptions (such as change of address, articles for the newsletter, or questions about compilers) must go direct to Minnesota. If it inadvertently arrives at Southampton it will be sent on by airmail.

August, 1976.

J.M. Mullins.

Rev. November, 1976.

A.B. Mickel.

NEWS (ALPHABETICAL BY LAST NAME)

A. M. Addyman, Department of Computer Science, The University, Manchester M13 9PL United Kingdom (PUG member): "I would like to join the Pascal Users' Group. Also, I am engaged in an effort to have Pascal standardised by a major standard's organisation, e.g. ANSI or ISO. How may I use your newsletter to contact people who would be interested in this, or alternatively to discover that there is considerable opposition?" (\*9/19/76\*)

Urs Ammann, Institut fur Informatik, ETH - Zentrum, CH-8092 Zurich, Switzerland (PUG member): "...By the way: What is your philosophy with the letters you received as to their publication in the Newsletter? I was somewhat astonished to see private correspondence in it. While I agree that this kind of information distribution makes editorship most easy, it is my strong opinion that any letter which is not explicitly marked as "letter to the editor" should not be published in full length, since this clearly exceeds or even contradicts (sic) the purpose of private correspondence. "Please don't misinterpret this statement! I have nothing against transparency, on the contrary! Any information of general interest you find in your correspondence should be passed on. But you will agree that with some effort from the editor, information can be passed on without letting everybody read private correspondence..." (\*9/29/76\*)

Diosdado P. Bantao, 3060 Bilbo Drive, San Jose, CA 95121 (PUG member): "I would like to be a member of the Pascal Users Group... My interests are in microprocessors and microcomputers and involved in both hardware and software development." (\*18/19/76\*)

Philip N. Bergstresser, 128 Jackson Ave., Madison, AL 35708 (PUG member): "We at TRW Systems are using Pascal on the CDC 7600, CDC 6400 and TI-ASC and claim the Guinness record for program size." (\*9/21/76\*)

Frank M. Brewster, 4701 Kenmore Ave #1009, Alexandria, VA 22304 (PUG member): "...It's been pointed out that many BASICs are 'non-standard'. I have yet to hear anyone ask, 'Why?'. The answer seems obvious: the language initially didn't have 'legal' provision for many of the users' real problems. The current ANSI BASIC proposal still demonstrates this failing. E.g., the CHR and SEQ(or ORD) functions are optional; how can anyone do general work without these functions? So BASICs will continue to be 'non-standard', as people fill in the gaps. If a car were sold without say, steering wheel, no one should complain if a buyer adds

a tiller. The point is that if the automotive designer finds steering wheels uninteresting and refuses to specify them as standard equipment, the user has two options (assuming he buys the car in spite of its failings): design his own steering apparatus, or cooperate with others in filling the gap in the 'standard'. If the designer won't see the issue, users will. The letters in the newsletter mention this, and appear to have been formatted in this manner. Apparently Wirth's not concerned. If you and others are waiting, then everybody either abandons Pascal or invents their own wheel (tiller?). But why don't those of you with early and practical experience with the language-

- list your complaints & problems, ranked, one list per man. (Maybe in a newsletter section, 'What's wrong with Pascal?')
- compare notes for similarities
- see if you can agree on solutions to any of these
- implement experimental changes; test till working
- promulgate as PUG-US 'extensions'

"The last item is the tackiest one. "A camel is a horse designed by a committee." Standards - the real ones, in actual use - are designed by those who are actually working in the field, in the course of their work. So if you and other of the few presently experienced Pascal users won't add to or alter Wirth's pronouncements, don't be surprised at the later irreverence of others. "All of you (me too someday) may owe a lot to Wirth. His opinions deserve respect and attention. But if he's to be treated as God, and his language as the ten commandments, how can Pascal be improved? The time to 'standardize' is not now, but after user problems have been faced frankly, and solutions found..." (\*18/19/76\*)

E. E. Brinch, E. I. du Pont de Nemours & Co., Engineering Development Lab, 101 Beech Street, Wilmington, DE 19898 (PUG member): "Have: PDP-11 series machines: 04, 05, 10, 15, 20, 40, 45. Using: (1) Prof. Per Brinch Hansen Solo Pascal Compilers, (2) University of Illinois DOS V4 Pascal Compiler, (3) Pascal P2 System.

"All of the above systems have their drawbacks. My interest is in a better transportable system for use on  $\mu$ CPU applications. I am very happy with the CDC 6000 version 3.4 at Purdue University; however, achieving the same degree of performance on a mini-computer has been and will continue to be a challenge Mr. Stephen C. Schwarm, a coworker, is in the process of starting a DECUS SIG PASCAL for PDP users of Pascal." (\*9/13/76\*)

HERE AND THERE WITH PASCAL

(NEWS FROM MEMBERS, CONFERENCES, NEW BOOKS, APPLICATIONS PROGRAMS, ETC.)

