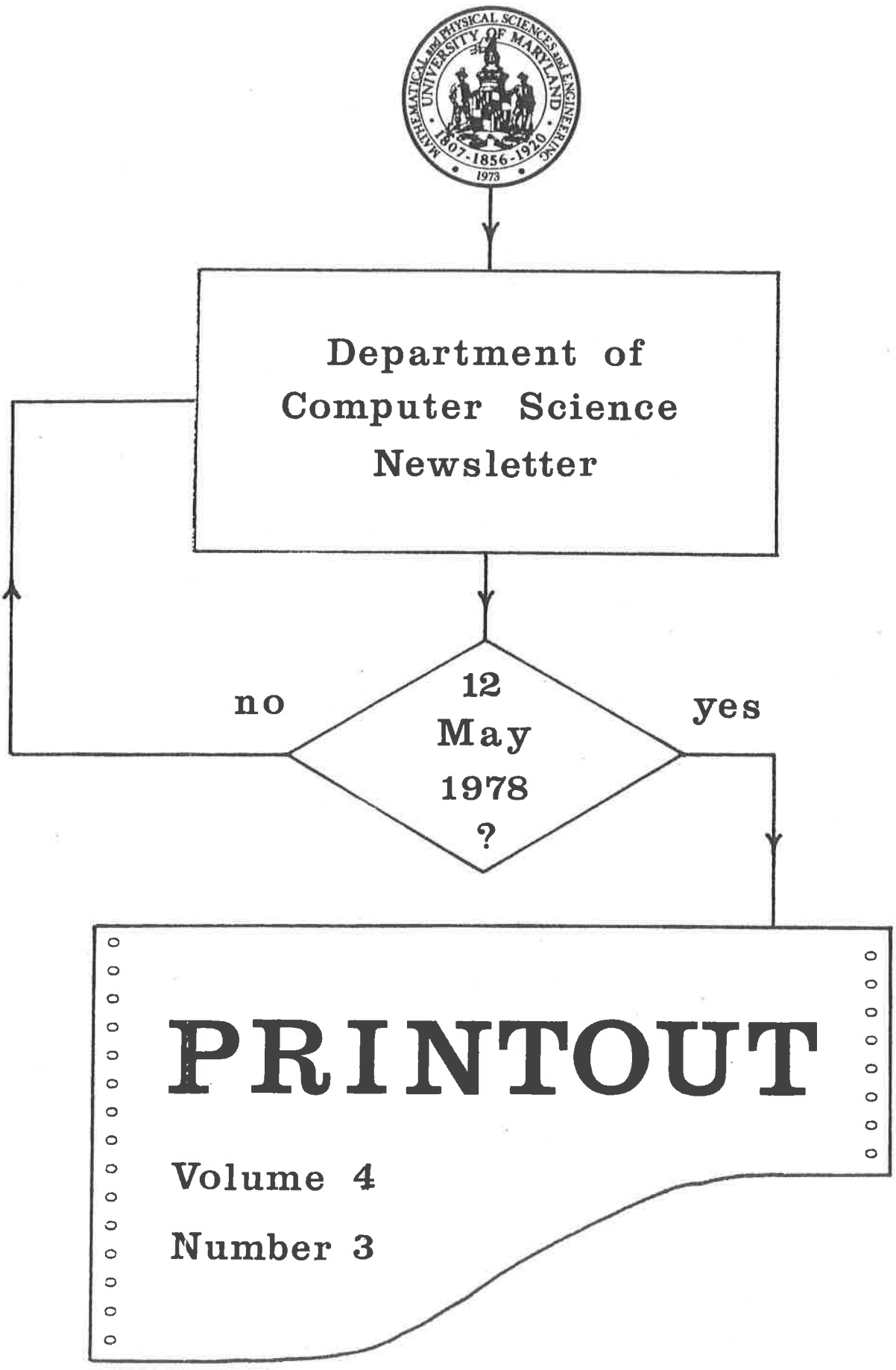


PRINTOUT

Volume 4

Number 3

PRINTOUT, the newsletter of the Department of Computer Science of the University of Maryland at College Park, is published sporadically and distributed to faculty, staff, and students in the Department. Opinions expressed in signed articles may be those of the author, but no opinions represent the policy of the Department, or of the College Park Campus, or of the University.

Contributions may be submitted to the editor, and unless they are obscene or seditious they will probably be used, but minor editing may be done. Complaints directed to the newsletter will be investigated and publicized when possible. It is well to keep in mind however that the Department is subordinate to higher levels of administration, not the other way around; and, the Department does not provide computing service to the campus. Complaints in these areas are best directed to other publications.

STAFF

EDITOR
Dick Hamlet

TYPING
Brenda Guarnieri
Pat Young
Margaret Gerrity
Jo Ann Thompson
Dawn Shifflett

MOTIVATION
Jim Vandergraft

PRINTOUT

Volume 4
Number 3

CONTENTS

Werner Rheinboldt and Computer Science at Maryland

Computer science at the University of Maryland began when Werner Rheinboldt was lured away from Syracuse University in 1962. He had spent several years at Maryland in the late Fifties, as a post-doctoral researcher in IFDAM (the Institute for Fluid Dynamics & Applied Mathematics, now part of IPST). Thus, he was already familiar with the area and the University. He brought with him from Syracuse John Menard, and the two of them proceeded to build a staff and obtain appropriate accommodations for a new electronic brain called the IBM 7090.

Werner's first office was on the fourth floor of the Math building. It was hot in the Summer, and the roof leaked when it rained. Several interviews with prospective staff were accompanied by the sound of water dripping into a bucket near his desk. By 1964, he had managed to persuade the State to build the first floor and the basement of the Computer Science Building (see photo). This was barely enough room for the 7090 and a few offices. The first GA's were housed in a strange square room, which later became the elevator shaft when the rest of the building was completed.

In 1965 Werner resigned as director so that he could devote more time to teaching and research. There was a lot of research done during this period, thanks in part to a one-million dollar research grant that Werner and others got from NASA. It was also NASA money that built the Space Science Building, thereby providing more space for the growing staff. By the middle Sixties, with the well-established IFDAM, together with the new Computer Science Center, Maryland was at the forefront of research in Applied Mathematics and Computer Science.

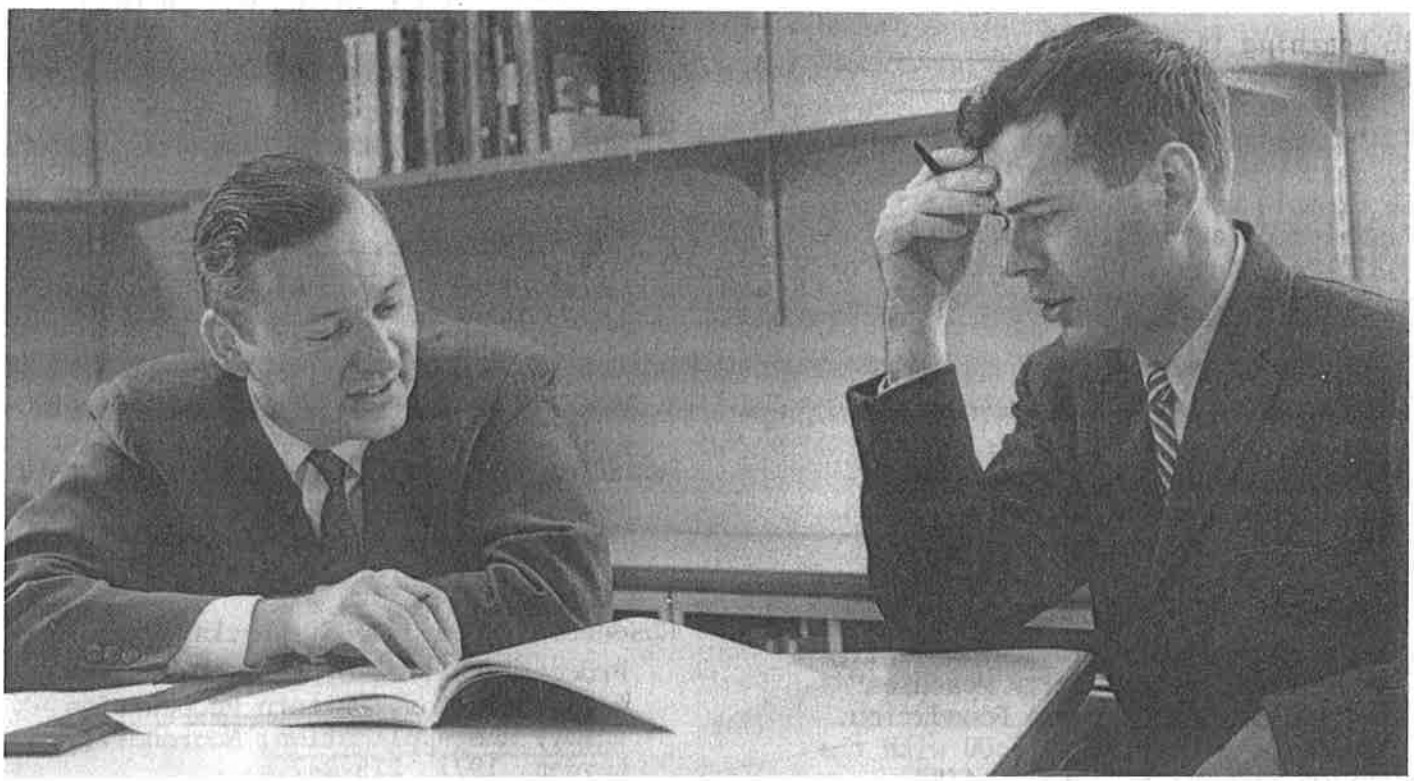
During the late Sixties, most of the staff was moved into the Space Science Building so that the top three floors of the Computer Science Center could be built. (The original request for State funds to support this construction was prepared by Werner in 1964. Even then, things moved slowly!) During this same time, the 7090 was replaced, very briefly by a 360, then more permanently by a UNIVAC 1108. With the completion of the Computer Center in 1970, the faculty at last had permanent and commodious offices. Also, the new classrooms meant that we no longer had to trek through rain and snow (and bitter cold?) to teach classes in the Math building.

While he was still director, Werner had laid the groundwork for an academic program in Computer Science. These plans finally resulted in the establishment of a graduate program in 1967. Werner's involvement with ACM and MAA curriculum committees helped in shaping our program into a broad and flexible one that would be respected by industry and copied by other universities.

In 1973, with the creation of the Computer Science Department, as a separate entity from the Computer Science Center, Werner's direct and "official" involvement with the educational program in Computer Science ended. This came about through an unforeseen and unfortunate set of circumstances. When the Department and the Center were separated, Werner chose to remain a Research Professor of Computer Science. This meant that his official "home" would be in the Center. Because of the Department bylaws, this also meant that he could not vote in Departmental committees, such as Educational Affairs and APT (Azriel Rosenfeld was also placed in this situation). Attempts to change the bylaws failed because of technicalities. Nevertheless, Werner and Azriel have generously given their time and experience when asked. They have been helpful not only with important matters such as hiring and promotion but also with routine things such as comprehensive exams.

Space (and my time) does not allow me to say much about Werner's more personal involvement with the faculty, staff and students in the Department. The foregoing has only mentioned some of his contributions to the impersonal aspects. He has, however, been repeatedly helpful to many faculty members on such things as grant proposals, book publication, and research. Students regularly look to him for friendly yet sound advice and guidance. He has served as mediator for more than one misunderstanding. Finally, Werner's voice, on behalf of the Department, has been heard in important campus committees, as well as national and international meetings. His prestige has done much to enhance the reputation of the Department and, by association, the faculty and students in the Department.

In June, Werner moves to the University of Pittsburgh, where he will hold the Andrew W. Mellon Chair in Applied Mathematics. Computer Science will continue to grow and thrive at Maryland, but the intelligent guidance and good advice of Werner Rheinboldt will be truly missed.



(Photographs courtesy Charles Mesztenyi)

- Jim Vandergraft

OS/test

Test your knowledge of operating systems! Match the letters with the numbers. (This test was created by anonymous students in Dr. Zave's 412 class.)

A. sewer system
B. process
C. square peg in a round hole
D. TWO
E. program
F. Singer
G. Detection, prevention, avoidance
H. MJN (My Job Next)
I. FART

1. Learning is a _____
2. Computer science is a _____
3. Semifour
4. Non-maskable interrupt
5. Best CPU scheduling policy
6. Example of first fit
7. Maker of automatic spooling systems
8. Three things you should know about V.D.
9. Large consumer-producer buffer

Grants

Dr. John Gannon has received a new grant entitled "Experimental Investigation of Program Complexity Measures" from the National Science Foundation. Funds awarded were $54,118.00 with the duration from 3/15/78 to 3/14/80.

Dr. A. Rosenfeld and Dr. R. Hamlet have been awarded a new grant entitled "Design of Transportable Image Processing Software" from N.S.F. Funds awarded were $105,929.00 with the duration from 3/1/78 to 9/1/79.

Publications

Zelkowitz, M., Effects of Structured Programming on PL/1 Programmers, Software Practice & Experience 7, No. 6, Nov-Dec, 1977. 793-795.

Basili, V. and M. Zelkowitz, Analyzing Medium Scale Software Development, Third International Conference on Software Engineering, Atlanta, Ga., May 10 - 12, 1978.

Minker, J., Search Strtegy and Selection Function for an Inferential Systems, ACM Transactions on Data Base Systems 3, 1 (March 1978), 1-31.

Hamlet, R., Syntax and Semantics of Universal Programming Languages, International Journal of Computer Math., 6 (1977), 87-103.

Hamlet, R., Structured Computability, Univ. of Md., Dept. of Comp. Science, LN-6, 1978.

Rosenfeld, A., Geodisics in Digital Pictures, Information and Control 35, 1978, 74-84.

Roselfeld, A. and N. Ahuja and L. S. Davis, Piecewise Approximation of Pictures Using Maximal neighborhoods, IEEE Trans. Computers 27, 1978, 375-379.

Rosenfeld, A. and J. S. Weszka, Picture Processing, (Editors: K. S. Fu and A. B. Whinston, Pattern Recognition - Theory and Application, Noordhoff, Leyden, 1977, 215-247.

Rosenfeld, A. and L. S. David, Interative Histogram Modification, IEEE Trans. Systems, Man, Cybernetics 8, 1978, 300-302.

Rosenfeld, A. and B. J. Schacter, Some new methods of detecting step edges in digital pictures, Comm. ACM 21, 1978, 172-176.

APrehensive Examination

A recent survey of faculty indicated "general dissatisfaction" with the current comprehensive examination system "Comps." An apparent majority of graduate students must mellow their feelings substantially to express merely "general dissatisfaction."

A major difficulty with the present system is the number of exams which must be taken: three, each one covering a separate area of Computer Science; it is some consolation at least, that they do not occur on successive days. Another difficulty lies in the volume of material on each exam's reading list; some lists represent thousands of pages and list books rather than articles. The examination cannot possible cover all the material on the reading list; often, the examiners seem to have dealt with this problem by using the dartboard method for choosing the topics covered by the exam questions. Thus the examination cannot truly be called "comprehensive" (although it is called many other things).

Because three crucial exams (usually within a week) are a tremendous strain on the body and soul of the examinee, causing months of apprehension and other forms of mental anguish, the authors would like to propose replacement of "the Comps" with a single 4-hour examination which could be given a more appropriate name: the APprehensive Examination, or "APE" for short. To aid in an evaluation of this proposal, the authors have devised sample questions for an APE.

Information Processing

[1] Beneath your seat is a copy of the transcripts of the Watergate "White House Tapes."
Using Commonsense Algorithm-based techniques, do one of the following:

[a] Analyze the inconsistencies between the public statements made by the White House and the private conversations which occurred therein, and determine the extent, if any, to which Richard Nixon is guilty of obstruction of justice.

[b] Recalling that the pardon freed him permanently from Watergate - related prosecution, predict in detail the content, if any, of his memoirs. Indicate the revelations, if any, which can be expected to occur.

[2] Also beneath your seat is a current copy of the Associated Press Almanac. Devise a representation for the world economic system. Axiomatize. Using Robinson Resolution, find a solution to the U.S. balance of payments deficit which does not result in open warfare. You should pay particular attention to possible economic repercussions of political issues such as African nationalism, the Panama Canal, Israeli WestBank settlements, Eurocommunism, and the PLO.

The grading scale for such an exam should be relatively simple. Here are the suggested criteria:

Failure: Student still sweating over the exam after ten hours.

Master's Pass: Student gets disgusted and leaves after four hours.

PhD Pass: Student leaves after 15 minutes in a fit of insane laughter and runs up to the Hazeltine Room to play Adventure.

Right Hand of God Pass: Student answers questions correctly.

- Clay Phipps
- Bob Fini

Research Assistance

In support of a National Science Foundation grant, two research assistants are needed, starting in Summer, 1978: one position is a Faculty Research Assist. with experience in image processing and/or operating-systems interface software. This position is half-time over an 18-month time span, but the working arrangements are flexible. A second position is for a part-time undergraduate, preferably with programming experience under UNIX or Exec 8.

The project is to design & implement transportable image-processing software. There are two main subgoals. One is the construction of an operating-system inteface which allows a complex system to be moved from one computer to another with only a few man-weeks of effort. The second is design of support routines for image-processing tasks that allow programers to concentrate on algorithms rather than details of buffering and user-command parsing. The operating system interface involves using machine language, but minimizing its spread. The image-processing support must be done in a subset of FORTRAN, to connect with programmers working in this same subset.

In addition to the usual benefits like salary (a Faculty Research Assistant can be paid significantly more than a Graduate Research Assistant), the research effort will be based in a strong laboratory providing easy access to the computer systems.

For information contact Azriel Rosenfeld (454-4527) or Dick Hamlet (454-4251).

The Software Engineering Laboratory is looking for a graduate student interested in working on the project. A good background in mathematics, especially in statistics, is preferred. If you are interested please contact Dr. Victor R. Basili or Dr. Marvin Zelkowitz as soon as possible. Summer employment is possible.

News

Dr. Dianne O'Leary will be joining our faculty in Fall, 1978. She will have a half-time appointment in Computer Science and a half-time appointment in the Institute for Physical Science and Technology. Following this time period, she becomes full-time in the Department and a half-position becomes available in IPST for someone to do research.

CMSC 420 will be offered this summer according to the following schedule:

Session I May 22 - June 30, 1978.
Monday, Tuesday, and Thursday 3 - 5:15 pm.
Instructor: Samet
Texts: Knuth Vol. I and The Little Lisper.

Matthew Hecht has decided upon a career in industry. He expects to go to the Bell Telephone Laboratories.

Chul Kim has decided to go to the University of Alabama as Associate Professor of Computer Science.

Prof. Werner C. Rheinboldt has accepted the Mellon Professorship at the University of Pittsburgh. He will be leaving Maryland in June.

Mrs. Janice Keough resigned effective March 31, 1978 to accept a position in the Dean's Office of the Graduate School.

Mrs. Margaret Gerrity joined our staff as a Typist Clerk IV on March 27, 1978.

Mr. Jim Doyle, who has been a programming consultant at the Computer Science Center for nine years, has accepted a position as Manager of Instructional Consulting at the San Jose State University in San Jose, California beginning May 1, 1978.

Laveen Kanal was elected to the MPSE Division Promotion and Tenure Review Committee for the term from 1 July 1978 to 30 June 1980. Wm. F. Atchison was elected to the MPSE Divisional Council for the same term. (H. P. Edmundson completes his present term on the Council in June, 1979.)

Laveen Kanal presented an invited paper on "Some Current Concepts and Problems in pattern Classification and Feature Extraction" at the 41st. Session of the International Statistical Institute held in New Delhi, India from the 5th to 15th, December 1977.

Professor Kanal also gave one of three distinguished lectures celebrating the fifth anniversary of the formation of the Space Applications Center of the Indian Space Research Organization in Ahmedabad India. The topic of his speech was "Machine Recognition of Patterns: Potential for Societal Applications." In addition, he gave a number of talks at the Space Applications Center, Ahmedabad, the Indian Institute of Science, Bangalore, the Indian Institute of Technology, Madras, the Indian Statistical Institute and Jawaharlal Nehru University, New Delhi, on research in pattern recognition, artificial intelligence and data communications being done at the Laboratory for Pattern Analysis.

During this spring, Professor Kanal will be a Visiting Professor in the Department of Medical Informatics of Vrije University, Amsterdam, the Netherlands. The Maryland Interactive Pattern Analysis and Classification System (MIPACS) has been implemented at Vrije University. Dr. Kanal has been invited to do research in collaboration with some members of the faculty of the Department of Medical Informatics.

"One man's hack is another man's hueristic."

-Anon.

"One man's separation of concerns is another man's procedure code."

-M. Shaw (quoting?)

"One man's 'man' is another woman's 'person'."

-MCP.

Gong Show Party

On Saturday evening, April 8th, the Computer Science Department Gong Show Party was held at Dianne Martin's home. A great deal of unexpected talent was discovered.

The show got off to a roaring start as Mr. Martin and son Chuckie, performed a famous Boy Scout Echo routine. Then, Steve Drasner, Brenda Guarnieri, and Mark Sweiger acted out "Rebecca - who slammed doors for fun and perished miserably." Brenda stole the show with her hearty protrayal of Rebecca Offendort. Steve's moving poetic rendition was equalled only by Mark's accurate portrayal of Uncle Jacob. Cameo appearances were made by Frank Billerio and Sandra Kitchen. To follow this act, Les Kitchen sang his heart out in "Waltzing Matilda". Les was supported by the backup vocals and chorus line dancing of Carl Albing and Frank Billerio. (The Department is glad that Carl and Frank have returned from their guest appearance with Radio City Music Hall's Rockettes. Not only do we have them back with us, but the Rockettes now have received a new contract.) Then Frank performed solo, singing a spine-tingling version of the Star Spangled Banner. Claire Kronsberg then told two jokes as funny as finals week. Next, Dianne Martin and daughter, Jennifer, performed a hilarious and unique version of a French can-can done to the tune of "Pretty Baby", which brought a standing ovation. Last but not least, Dr. Austing presented a slide show featuring unusual scenes that have occurred in this department. The audience's favorite slide was that of the National Christmas Tree lit up at night, with the caption "Bill Wilder - after the Computer Science Department's Christmas Party."

The party continued until late in the evening, with the first real talent of the evening being exposed: Mike "Liberace" Hudak performed on the piano as if he were performing Scott Joplin at Carnegie Hall. The first Gong Show Party was a huge success, and a good time was had by all. Eat your heart out, Chuck Barris!

--Steve Drasner

Carriage Control

[This column is a response to the many requests (well, none actually) asking how a newsletter is produced. It also serves as a source of good advice from the retiring editor to his successor. I would like to note in passing that the operation of "retire," at least as applied to newsletter editors, has no inverse.]

Q: How do you get to be editor of a newsletter?

A. Editors of house organs are appointed willy-nilly.

Q: What is a house organ? It sounds musical or possibly obscene.

A: Although I don't know the origin of the word, it means a publication intended only for a captive audience, usually in a business or other organization. It is always free, and too often devoted to peddling the viewpoint of the management. In the computer business, one must distinguish house organs from "freebies," publications of more general circulation that are well worth their cost of nothing. Some freebies are very glossy indeed, since they are supported by the advertising of the relatively rich computer industry. (A friend of mine handled an early issue of Computer Decisions too roughly, and found his hands coated with four-color offset process for weeks.)

Q: Who made up the name of this newsletter?

A: Barbara Ellis. The only other contenders were "The University of Maryland Computer Science Department Official Newsletter," and "Sick Jokes for Hackers."

Q: Where do you get all the funny, interesting, stimulating articles to put in the newsletter?

A: What articles?

Q: I'll rephrase that: Where do you get your material?

A: Mostly you write it yourself. A trickle of contributions comes in, mostly from students, and a few faculty and staff members are consistently helpful, but when it comes down to really filling in the white space on the page, you write the pieces to fit in the holes.