INTRODUCTION

This newsletter is to inform people of developments in an effort to advance computer education. Workers at the Ford Rouge Plant in Dearborn, MI. were denied computer programming classes. There was an effort by administrators of the UAW-Ford program at the Dearborn Engine Plant to kill interest in computers and computer programming. We want to keep interest alive because computers are the future. We want to disperse information to users about computers. Since the computer is still in the early stage of development, the ideas and experiences of the users need to be shared and built on if this technology is to advance. To this end, this newsletter is dedicated to all people interested in learning about computers. We welcome articles, programs, reviews, etc. We want this newsletter to help people use their computers in ways that will be useful and fun.

Table of Contents

The *Amateur Computerist* invites contributions of articles, programs, etc. Send submissions to:

DAWN OF A NEW ERA

From the Age of Darkness to the Age of Enlightenment — from the Machine Age to the Mind Age, here we are. Let not any force or forces keep it under wraps. Let it be free to circulate in the Public Domain. Let us base it upon principle, not on price, like Truth or Love. From the Great Wall to the Great Pyramid, from the hieroglyphics to the screen of the computer, mankind is still progressing. So make the new born science that has given us the computer for the amateur and not as a prerogative of the professional to be shrouded in secrecy from humanity, the choice of the individual, not an election of a minority. From the falling star to the falling apple, from the minute to the multitudinous, from secrets to disclosure, I am pleased to endorse the amateur method. Therefore I implore all to plan and to participate even though I have been on disability for 26 years and have not had the opportunity to participate in the great sea of knowledge that has flowed over the Dam of Secrecy since I was activated physically and mentally — in my advanced years and state of general debility I still see the mind of man as the greatest computer of all — So Let Us Continue to Make Use of It to the Advantage of the Masses — Come, Let Us Reason Together. With an open mind and a free spirit, let me reiterate, there is so much more to know, that what we do know, is still insignificant. It gives me great pleasure to endorse this free-for-all program of a restless mind.

Floyd Hoke-Miller
UAW Retiree and
Flint Sit-Down Striker

DEDICATION

This first issue of the *Amateur Computerist* is being published on February 11, 1988. This date was chosen so that this issue could be dedicated to the Flint Sit Down pioneers on the victory of their battle to win industrial unionism 51 years ago.

Floyd Hoke-Miller, whose article "Dawn of a New Era" appears elsewhere in this newsletter, was a sit-downer in Plant 4 in Flint, MI during the Great Flint Sit-Down Strike. He continues to participate in the battle for industrial unionism and for the progress that industrial unionism has brought to this land.

Another pioneer of the Flint Sit Down Strike, Jack Palmer, when he retired, wrote an article in his union newspaper in which he tried to sum up the gains and unresolved problems that the sit-downers had left behind them. He wrote, "Each generation has to solve its own problems. The sit-down generation solved the problem of organization. The postwar generation solved the problem of pensions and inflation. Not entirely, but a good start was begun. The present generation is faced with the greatest problems of all. They are Automation, Peace and Politics." (From "The Searchlight"((newspaper of UAW Local 659, Flint, MI), April 21, 1960, pg. 2).

The *Amateur Computerist* is an effort to encourage discussion on the problem of Automation. Microcomputers are now an important fact of life. They are new. The first microcomputer design was announced to the public only 14 years ago. (It was the Mark-8 by Jonathan Titus featured on the cover of the July 1974 issue of *Radio Electronics*.) Today, personal computers are everywhere. They are affecting and changing homes, factories, offices, etc. They are revolutionizing all fields of knowledge. Therefore, it is crucial that computers not be kept from people — that knowledge about computers is available to amateurs as well as professionals.

In a book written shortly before the invention of the personal computer, Ted Nelson warns against allowing a computer priesthood to develop. He writes, "Knowledge is power and so it tends to be hoarded. Experts in any field rarely want people to understand what they do, and generally enjoy putting people down."

"Thus if we say that the use of computers is dominated by a priesthood, people who splatter you with unintelligible answers and seem unwilling to give you straight answers, it is not that they are different in this respect from any other profession. Doctors, lawyers and construction engineers are the same way."

"But," he goes on, "computers are very special, and we have to deal with them everywhere and this effectively gives the computer priesthood a stranglehold on the operation of all large organizations, of government bureaux, and anything else that they run...."

"It is imperative," he concludes, "for many reasons that the appalling gap between public and computer insider be closed. As the saying goes, war is too important to be left to the generals.... Guardianship of the computer can no longer be left to a priesthood.... Indeed, probably any group of insiders would have hoarded computers just as much.... But things have gone too far. People have legitimate complaints about the way computers are used, and legitimate ideas for ways they should be used which should no longer be shunted aside." (From *Computer Lib*, pg. 1-2.)

Thus to deal with the problem of automation, it is necessary for people to be familiar with computers, to use them, and to know their capabilities and limitations. To that end, this newsletter is dedicated to continuing the work begun by the Flint Sit-Down Pioneers.

The World of Telecommunications

Do you want advice about which programming language is worth learning? Are you interested in a discussion on why the shuttle blew up? These and many more questions were recently discussed on a computer bulletin board system (BBS. BBS's are part of the world of telecommunications.)

For example, there is an on-line computer magazine on the BBS "Chess Board." In an article on "Telecommunications: The Interactive Process," the writer explains: A bulletin board system (BBS) is a privately owned and maintained computer based communications system. A person, or sometimes a group of people, have invested computer, data storage, telephone lines and bills and much time into giving others a means for communicating with another with their computers. They each have their own reasons and goals for investing hundreds or thousands of dollars and hours to this activity."

Another article on "Chess Board" points out that each bulletin board has a purpose. It can be a fun board, with puzzles and games, it can be a board whose purpose is

an exchange of ideas with discussion formats which include debates on various issues like current events, world affairs, etc. It can be a board that will let users exchange software through uploading and downloading programs.

Following are listed just a few of the many BBSs in the Detroit area - (or if the number has a one before it, in this case, it is because it is in the Ann Arbor area.)

Genesis II (291-2520) Has lots of files to download.

PC Playhouse (381-8633) Mostly IBM compatible information.

Starship Enterprise (843-1581) Can ask for prices on computer equipment.

Chessie's BBS (291-2160) Good discussion.

Trading Post (882-7104) In general good board.

The Outpost (277-1513) Good for downloading programs.

General Store (728-2863) Good for downloading.

M-Net (1-994-6333) Lots of lively, informative discussions, and can have on line conversations.

If you want to call Ann Arbor, you can call thru MERIT so it isn't a toll call. An article on using merit will follow in a future issue if there is interest.

Along with BBS's in one's local area which are usually available free of charge, there are also commercial services like Compuserve or the Source. They bill users a fee for the time on line.

Another user sums up the value of telecommunications: "You exchange ideas, you discuss, you might not see these people, but you have connection with them thru the modem so if you're stuck at home, you're still out in the world. You exchange ideas, message programs, etc. You reach a whole community."

TRY THIS

This is a graphics program for IBM PC & compatible machines.

```
5  REM Trythis.bas
10 KEY OFF:CLS:SCREEN 1
20 X=4*RND:Y=4*RND:IF X=Y THEN 20
30 COLOR X,Y
40 FOR A=-120 TO 120 STEP 4
50 FOR B=0 TO 1
60 LINE (160,100)-(A,199*B),RND*4
70 LINE (160,100)-(319-A,199*B)
80 NEXT B
90 NEXT A
100 FOR D= 1 TO 5
110 FOR C=1 TO 23
120 COLOR 4*RND,4*RND
130 CIRCLE (160,100),5*C,4*RND
140 NEXT
150 NEXT
160 FOR E=1 TO 10
170 PAINT(160,100-E*2.5+2),RND*4
180 NEXT
190 LOCATE 13,17:PRINT"THE END"
```

The Future Belongs to Programmers

An article in the Jan/Feb.1988 issue of *Computer Update*, the magazine of the Boston Computer Society, explained that Microsoft is recommending that computer users learn to program in BASIC. Microsoft sponsored a two day seminar in the state of Washington in October, 1987 for representatives of big computer clubs. Microsoft was expected to introduce some of its new products. Instead, to the amazement of many, Microsoft used the seminar to explain the importance of learning to program. "Microsoft today is bustling with activity...Oddly enough, Microsoft chose not to talk about any of these activities with the user group community. Instead, it focused all of the sessions on its work on programming languages," reported the Boston Computer Society representative.

The article goes on to explain, "Microsoft believes the future belongs to programmers. Although programming languages were once thought to be relics of the early days of personal computers, they are enjoying tremendous growth today. As users become more sophisticated, Microsoft believes, they will eventually find themselves needing performance and specialized functions that only a programming language can provide."

The article quotes a Microsoft engineer, "In the future, everything should have programmability." The User Group Representatives were further surprised by another development at the conference. Not only did Microsoft stress the importance of programming, they also stressed the importance of the BASIC programming language. The writer noted, "Most serious programmers consider BASIC an obsolete language." The writer went on to cite the slowness and lack of sophistication of BASIC as the reason. "More and

more" programmers "are opting for C as their language of choice," he explains.

But not only is BASIC available on more personal computers than any other language, it is also easier to learn than any other language. "For this reason," the article explains, "Microsoft sees BASIC as "the language of programmability for the future."

Bill Gates, Chairman of Microsoft, is quoted as recognizing "the need for a `universal macro language' for personal computers." The article goes on to suggest that "This language would allow users to write procedures that work on all different application programs and operating systems. (It could, for example, permit you to write a macro in 1-2-3 that called up a program in dBase III and then transferred information to PageMaker.)"

The article sums up the conference, "Although the presenters did not say so directly, they implied that Microsoft was working to make BASIC the basis of this universal micro language." The result would be that BASIC, "then could become the Esperanto of the applications software world."

Augusta Ada Byron (1816-1852)
The First Programmer

WHY LEARN PROGRAMMING

Three years ago there were classes in computer programming (in BASIC) at Ford's Dearborn Engine Plant and at Ford UAW Local 600. Also, there were classes in programming in BASIC at many local public schools. Now, in 1988, computer programming classes are gone from the Ford Rouge Factory and there are fewer or none left in local public schools. For example, there are no longer classes in programming in BASIC in the Dearborn Public Schools. Thus there has been a substantial change in computer education both at the workplace and in the public schools. Why has this change occurred? Also there were public moneys, from both the Federal and state government allocated to provide for these and other classes. When public funds are involved, there are a set of regulations to be followed so there can be public scrutiny of what is happening with the money. The money is still being provided but the classes are gone. What has happened?

Over the past three years UAW members at the Ford Rouge Plant made clear that they were interested in learning computer programming. The personal computer is a young technology. It's only beginning to be developed in terms of uses at home. More people have computers in their homes now and they want to be able to use them for things they previously had done on paper. Most software is not customized to the individual. If you have knowledge of how to program, you can make the software meet your needs. For example, on IBM compatible machines, you can write BATCH programs which will help you use your application programs more efficiently. You can use the computer even when there is no commercial software for the task you want to accomplish. Also, it is much harder to use store bought software when you are not familiar with programming skills. By learning to program you learn how the computer works so you aren't intimidated by it. And personal computers are being used in more and more workplaces, which makes it doubly important to be able to get the computer to do what it is needed to do.

It is not only that people need to know the computer to be able to do their job. It is also that the computer needs to be developed in the workplace. The workers who operate computers will need to develop the uses of the computer and will have to be able to get them to work. Our times are like the early days of the industrial revolution when machines were first introduced into factories. Workers needed to know the principles of physics, mathematics etc. to be able to get the machines to function properly. But the factory owners were afraid of educated workers. They wanted workers who were obedient and passive and resigned to their conditions. Thus, it became necessary to set up special technical schools for workers called Mechanics Institutes to make this technical knowledge available to the workers who

needed it. And when those schools finally were set up, there was a sharp struggle as to whether the factory owners or the workers would determine the content of the classes offered.

Herman Goldstine, in his book *The Computer from Pascal to vonNeumann* (1972, N.J., p 32) offers an account of the problem workers faced being denied technical education. He writes:

"This exclusion was going on just at the time when the Industrial Revolution was making education ever more essential for all members of society. In 1823 George Birkbeck (1776-1841) founded his first Mechanics' Institute in Scotland, and similar institutes spread into England under the patronage of Henry Brougham (1778-1868). These brought to the working-man the advantages of technological training just when it was most needed in England...for example, Stephenson, the inventor of the locomotive, was a poor boy who taught himself to read when he was seventeen." (p 32)

A similar but more subtle exclusion from technical education has occurred at the Ford Rouge Plant. Company and union officials say that the union is teaching computers at UAW Local 600. Originally there were computer programming classes at Local 600. They were taught by teachers from Henry Ford Community College. But suddenly those classes were ended, and a private subcontractor was brought in to teach computers. The new classes, however, were no longer classes in computer programming. They were classes in how to use a certain word processing program, or how to use a particular spreadsheet program. Why were the computer programming classes designed by Henry Ford Community College teachers ended at the union local? Why were computer applications substituted for computer programming in the classes at the union hall? And why were these classes then used to cut out classes in computer programming at the Dearborn Engine Plant? The computer programming classes at the Dearborn Engine Plant were part of the pilot program set up in early 1984 under the UAW-Ford contract. Computer literacy classes which included 60 hours of computer programming instruction were made available as part of this pilot program. The classes were supposed to be available as adult education classes run by a local school system. And there was State and federal funding supplementing the class offerings. A Professor from the University of Michigan who wrote an evaluation of the program in Spring, 1984 said that the computer classes

were the most important aspect of the program, and he recommended that whenever other programs be set up, they include computer offerings. His evaluation was used to justify further funding from the State of Michigan and the federal government. These funds required all workers at the Rouge be notified of all the classes that are offered at the Dearborn Engine Plant. Yet in Fall 1985, the computer classes were removed from the brochures advertising the classes available at the Dearborn Engine Plant. And then some of the computer classes were cut out. When UAW members tried to inquire about why this was happening, they were told that there were computer classes at the union hall.

But the federal funding required that the contract signed by Ford and the UAW to provide computer literacy classes at the D.E.P. be maintained. And the D.E.P contract also stipulated that there would be advanced computer classes offered at the D.E.P. Yet when U.A.W. members tried to register for these advanced classes, they were told that they wouldn't be available. They were told they could take classes in computer applications at Local 600. Why was such an effort made, despite federal funding requirements, to cut out the computer programming classes at the Dearborn Engine Plant?

First of all, it is said that workers won't have to program a computer, they will only have to operate it. Thus computer classes need only teach how to run a commercial computer program. But the computer is not a word processor or a spreadsheet or a data base machine. Almost any personal computer can be used in a variety of ways. It can be used for word processing, to run a CAD program, to run a spreadsheet. It can be used to run programmable controllers or robots. It can be used to do typesetting. To learn a particular application is not necessarily helpful in learning the flexible nature of the computer. The personal computer is an all purpose machine. It has only begun to show its varied potential. But to utilize this machine, you have to understand how it works and how to get it to do what you want. Thus you need to know how to program it.

In the 1930's, some auto workers in Flint, MI, had lathes in their basements so they could become familiar with the operation of the machine and be able, therefore, to get it to do what was needed at work. The same goes for the personal computer. The more you use it at home, the more you will be able to understand how it functions and be able to use it at work. Some U.S. corporations seem to believe they can control the com-

puter, so they are keeping workers and schoolchildren from learning programming. One company officials told a mother his company didn't want people learning programming. They would teach whatever someone needed to know. Also supervisors have said they don't want workers typing in programs, tying up the machines. And maybe it is feared that if workers learn to program they will change the operation of a machine. But are these fears realistic?

First of all, the computer is new. People using computers will be running into new, unknown situations. Management may claim they don't want workers trying to deal with these situations, they want PRODUCTION. There are salary programmers. But they can't write everything that needs to be written, because they can't do all the customizing that is needed. To get production, management will need workers on the shop floor who are able to solve the day to day problems that occur in the course of operating the computers that are being installed on the shop floor.

In the pre-computer era, someone running a Keller machine needed to know what cutters to use in what areas, what direction to run in, how to set the job up, the size of the tracers, which cutters to use for certain areas, when the job was done, etc. It was only practical experience that made it possible to run the machines. Then numerical control machines were introduced, which run with paper tapes as programs. They are often programmed by salary programmers at another location. But if the cutter gets dull or hits screws and dowels, or there's too much stock or no stock (for example you can't take off 4 inches of stock at one time as you would break the cutter) then the operator has to intervene in the program and override it. Kellers, now, are run by direct numerical control, rather than by paper tape. In the past, there wasn't enough memory storage to store the whole program at one time to be able to edit it. Now the operator can load the whole program into the machine at one time to run it. If the operator finds something is wrong, it is now possible to edit the program and correct the error. Therefore, it increases efficiency for the operator to know how to program the machine. Also, it is more likely a worker who doesn't know programming will make some mistake that may interfere with the program in a machine, while one who knows how the machine operates and is equipped to solve its problems may actually improve the situation. It is workers who keep machines running, and they need certain necessary knowledge to be able to do their work.

Learning BASIC can be an easy introduction to how a computer uses programs. It also makes it possible for a beginner to write simple programs. If someone doesn't know BASIC or another programming language, he doesn't know what a computer can do. He doesn't know if the computer is capable of adding, subtracting, or how it does it. If he runs into trouble, he has no idea why. Someone who has learned a little BASIC programming, however, knows that a computer can do calculations. He understands how a program can get stuck in a loop. And if he needs to go for some kind of specific training, for example, for robotics training, or numerical control training, he has a background that helps because he already knows what a program is. He might be learning another programming language, but he doesn't have to start from scratch.

Learning to program a computer can also help to demystify the computer. It can give someone confidence in using the computer because the person knows he can control the outcome by changing a few commands. Also, he has accurate knowledge of how the computer functions. Thus he can deal with the unexpected and the problems. One of the pioneers in the development of the personal computer, David Ahl, observed that there is great misunderstanding about the kind training required to develop the technology of the personal computer. "We are dealing with one of the most important concepts and tools developed by man," he says,"and yet some continue to hope they can check it off as they do driver education or typing." (*Creative Computing*, Nov. 1984, p.16)

The cover of *Personal Computing* announced the Pet Computer October, 1977

COMMODORE TIPS & TRICKS

BLOCKS FREE
If you would like to know how many blocks are free on a disk, enter: LOAD"$$",8. Then LIST. The result will display the blocks free on the disk but not the directory.

DIRECT MODE DISK-ERROR READER
The next time you need to read the disk error channel, try this line in direct mode:
OPEN 1,8,15: POKE 58,0: {about 20 spaces} INPUT #1,A$,B$,C$,D$: PRINT A$,B$,C$,D$: CLOSE 1

EASY LOAD AND RUN
Type: LOAD"filename",8 {shift and run-stop keys}

SHORT FILE-READER
Here is a one-liner for reading sequential files. Change "filename" to the name of your sequential file and type in RUN:
2 OPEN8,8,8"filename" : FOR I = 0 TO 1 : GET#8, A$: I = ST : PRINT A$;: NEXT : CLOSE 8 : END

NEW FIRST FILE
This program will let you swap the first file in a directory with any other file on the disk:
```
10 INPUT "name of current first program"; F$
20 INPUT "name of program to be first"; P$
30 PRINT "validating disk" : OPEN 15,8,15,"V0"
40 PRINT "swapping files" : F1$ = F$+"." : P1$ =
   P$+"."
50 PRINT#15,"C0:"+F1$+"=0:"+F$ : PRINT#15,
   "S0:"+F$
60 PRINT#15,"C0:"+P1$+"=0:"+P$ : PRINT#15
   , "S0:"+P$
70 PRINT#15,"R0:"+P$+"=0:"+P1$ : PRINT#15,
   "R0:"+F$+"=0:"+F1$
80 CLOSE15 : PRINT"{ 2 curser downs} all done!"
```

STAFF

Steve Alexander
Ronda Hauben
William Rohler
Norman O. Thompson