UPDATE: ACF SYSTEMS, SOFTWARE, DOCUMENTATION

For CDC CYBER Users

Upgrade of NOS to Version 2.1 is planned. CDC has released Version 2.1 of the CYBER's operating system NOS. We plan to install Version 2.1 sometime within the coming months. The exact date depends upon the arrival of hardware that is needed for its installation.

With the upgrade from 2.0 to 2.1, CDC will withdraw support for KRONOS Control Language (KCL). Versions 1 and 2.0 of NOS tolerated the older KCL in addition to CYBER Control Language (CCL); by comparison, NOS 2.1 will accept only CCL as legitimate and will behave unpredictably in response to KCL. You are likely to be affected by the withdrawal of KCL if you came to the CYBER from the CDC 6600, or if you are using programs originally developed for use on the 6600. If you belong to either of these groups, you should check your programs and procedures to ensure that they contain no KCL. One way of doing this is to examine the dayfiles associated with your batch jobs and terminal sessions: since last September, a warning message has followed each instance of KCL reported in your dayfile. Refer also to the online writeup "IMPACT!": instructions for obtaining a copy are given later in this section.

NOS 2.1 will bring with it some attractive enhancements. As an example, your CCL procedures will be able to generate "menus", and it will be possible for
users to create "shells" which "customize" their computer interactions -- by renaming command names, for example, or defining for themselves a "subsystem" or environment of permissible commands of their own choosing. Among other benefits, these shells will be an especial convenience for groups of users all working on related projects.

Other improvements will increase the speed with which printed output and graphics displays are produced. Flow control for output devices will be enabled, so that, for example, cluster printers and many "daisy wheel" printing devices will operate at faster speeds. Graphics users will be pleased to learn that high-speed terminal output will be possible under NOS 2.1.

In general, the two versions of NOS 2 are "upward compatible". For most users, the upgrade should cause no inconvenience and should, in fact, improve the comfort and speed of their system use. An online writeup, "IMPACT1", summarizes the changes of greatest immediate effect on users. For a paper-printed copy, type "OBTAIN,WRITEUP=IMPACT1,L=DOCCOP", then "ROUTE,DOCCOP,TID=WH,T=PR"; replace "WH" with "TH" if your output folder is at Tisch Hall. "IMPACT1" will be updated and expanded as installation of NOS 2.1 nears; you should therefore plan on referring to it periodically within the coming months.

Automatic presetting of MFL. Logging in to a CYBER time-sharing session will now cause your maximum field length (MFL) to be set automatically at 140,000 octal. This automatic presetting of MFL for users will help prevent their inadvertently "locking" their terminals.

Most interactively run programs will not exceed 140K in central memory resources. If your program does exceed the automatically preset MFL, however, you will receive a message to the effect that your RFL exceeds the MFL. You should then submit your program (by means of the "SUBMIT" command) as a deferred batch job. An MFL value for batch and deferred batch jobs is associated with your user name and is usually greater than 140K. (For more about SUBMIT, see CDC's NOS 2 Reference Set, Volume 2, pp. 1-13 ff.)

The on-line accounting system will discover your SRM deficits more quickly. In late January, the data base for the on-line accounting system was expanded. Since September, when NOS 2.0 was installed, such additional resource usage as lines printed, cards read, tapes mounted, and so on, had been summarized separately in monthly reports. These are now included in the online database.

The accounting data base is updated about once a week. Master users should check the status of their charge numbers and projects by means of the command "PROFILE". (See the NOS Version 2 Reference Set, Volume 3, for more about PROFILE.)

Version 5 of SORT/MERGE utility is now available. CDC's SORT/MERGE Version 5 was installed in late December and is available to ACF CYBER users, along with SORT/MERGE Version 4.6.

Version 5 has a "dialog" parameter, which invokes an interactive dialog between the user and SORT/MERGE. To try it, type "SORT5", and then "DIALOG=YES".

Both Versions 4.6 and 5 are useable from within FORTRAN and COBOL programs. Consult CDC's FORTRAN Version 5 Reference Manual (Pub. No. 60481300) and COBOL Version 5 Reference Manual (Pub. No. 60497100) for details.
Copies of these two manuals and of CDC's SORT/MERGE Reference Manual (Pub. No. 60484800) are available in reference racks at all ACF user work areas and can be purchased at the NYU Bookcenter (lower level).

Pascal and Pascal Tools updated; "COMPARE" is systemwide command. Pascal 6000 was updated to Version 3.4.0. The new version corrects some minor command problems associated with the previous version. Also updated were the Pascal software writing tools. These include several Pascal program monitoring tools ("ANALYZE", "AUGMENT", "MEASURE") and a text formatting program ("PROSE"), among others.

The Pascal tool "COMPARE" has been made a system-wide command. As a result, it need not be preceded by an "OBTAIN" statement. "COMPARE" will compare two text files and report their differences. To use it, type "COMPARE,fn1,fn2" , where "fn1" and "fn2" are the names of the two files which you wish to compare.

See the ACF writeup "QPASCAL" for information on the use of Pascal on the ACF CYBER system, and for additional readings on Pascal and the Pascal software writing tools.

Miscellaneous software updates. EFAP (Exploratory Factor Analysis Program) Version II was installed. Version II is numerically equivalent to Version I, but introduces a simplified input format and adds several output options. To use EFAP, type "OBTAIN(EFAP2)" , and then "EFAP". A copy of the manual is available for reference in Room LC-7 Tisch Hall.

Version V of LISREL (Analysis of Linear Structural Relationships by the Method of Maximum Likelihood) is now available on the CYBER. As compared with LISREL IV, the new version of LISREL provides automatic starting values for many of its parameters. LISREL V also allows you to compute and analyze matrices of polyserial and polychoric correlations (including tetrachoric), and offers new input and output features, as well as means of handling missing observations.

The M77 compiler and library are now at Version 2.3; the update fixed minor problems.

CDC's NOS 2 Reference Set, Volume 2, is available. Volume 2 of CDC's NOS Version 2 Reference Set was published, at last, in January. Volume 2, "Guide to System Usage", will be a valuable aid to all CYBER users, and is recommended highly as a resource for instructors and programmers using the CYBER.

If you are new to the CYBER or would like a review of concepts and commands that every NOS 2 programmer should know, read the following: Chapter 1 (especially pages 1-13 through 1-18), Chapter 2 (especially pages 2-2 through 2-4, and 2-8), Chapter 3 (especially pages 3-1 through 3-7, and 3-13, 3-14), Chapter 4 (especially pages 4-1 through 4-10, and 4-12 through 4-20), Chapter 6 (especially pages 6-1 through 6-7). The NYU bookstore has copies in stock. Reference copies have been placed in Rooms LC-8 Tisch Hall and 313 Warren Weaver Hall, at 14 Washington Place, in the CIMS Library, at the Bobst Library Reserve Desk, and in the Computer Science Department's Help Room (1128 Warren Weaver Hall).

Note to former users of the CDC 6600. All permanent files on the CDC 6600 were carried over to the CYBER last fall. Those which had not been accessed since September 1, 1982 were transferred to tape on March 11, 1983 in order to make
disk space available for current use. Enquiries concerning these files should be made to the tape librarian, Rosemarie Simmonds, 460-7155.

For IBM Users

BMDP81 is the default. BMDP-81 has been made the default "floor" version of BMDP. It is accessed, currently, through three catalogued procedures. All the BMDP programs described in the BMDP81 Manual are accessed through BIMED. The statement "/ EXEC BIMED,PROG=BMDPXX", for example, would give you access to the program BMDPXX. The procedure BIMEDT will allow you to use FORTRAN transformations, as described in pages 56-58 of the BMDP81 Manual. The third procedure, BMDPLKED, adds to BIMEDT the facility of saving the link-edited load modules, so that the FORTRAN instructions need not be compiled repeatedly. Reference copies of the BMDP-81 Manual are in the reference racks at 14 Washington Place, Tisch Hall (Room LC-8), and Warren Weaver Hall (Room 313).

MILS and LVPLS will soon be available to IBM users. Two new programs for the analysis of structural relations in systems with manifest and latent variables are being installed on the IBM and should be available within the coming months.

MILS (Multiple Indicator Linear Structural Model), developed by Ronald Schoenberg of NIMH, has several useful features. Among these are a more advanced matrix inversion routine, generalized least squares estimation (in addition to maximum likelihood), an alternative minimization procedure that is supposed to be more efficient and accurate, and the possibility of including in the model constructs which are products of other constructs.

LVPLS (Latent Variables Path Analysis with Partial Least Squares Estimation) implements the work of Lohmoeller and Wold. The LVPLS procedure does not require the assumptions that LISREL requires about the variables' distributions. As a result, LVPLS can accommodate both ordinal and categorical variables. Two other differences between the two programs are that LVPLS focuses more on prediction, while LISREL is concerned with causal-structural relations; and, generally, that LVPLS is more effective when working with complex systems for which information is sparse or relatively low, while LISREL is more appropriate for less complex systems about which there is more theoretical information. (For discussions of LVPLS and LISREL and comparisons between them, see: Fornel, C. (Ed.), A Second Generation of Multivariate Analysis (Vols. 1 and 2) New York: Praeger, 1982; Joreskog, K.G., and Wold, H. (Eds.), Systems Under Indirect Observation (Parts I and II). Amsterdam: North-Holland, 1982; and the entire November 1982 issue of the Journal of Marketing Research.)

LOGIST has been withdrawn temporarily. Notification has just been received from ETS (Educational Testing Service) that our current version of the LOGIST program contains several errors. We have withdrawn our present version and will reinstate LOGIST when the corrections have been made.
For ACF VAX Users

System upgraded to VMS 3.1. VAX/VMS was upgraded to Version 3.1 in January. An on-line document summarizes the changes which are of interest to most users, and a few known problems associated with VMS 3.1. It also includes a list of errata in manuals published by DEC for VMS 3.0. For a printed copy, type "PRINT NYU$AIDS:VMS3.1". To view the document at your terminal, replace "PRINT" with "TYPE". (A minor, maintenance, update to VMS 3.2 is scheduled for the coming weeks.)

FORTRAN is now at Version 3.1. The VAX-11 FORTRAN compiler was upgraded to Version 3.1. Most of the changes were "bug" fixes. They are summarized in the on-line document "NYU$AIDS:FORTRAN3.1". For a printed copy, type "PRINT" followed by a blank, and then the document's name. To view it at your terminal, replace "PRINT" with "TYPE". (A minor update of FORTRAN, to Version 3.2, is expected within the next few weeks.)

PASCAL 2.0 installed. Version 2.0 of the VAX-11 PASCAL compiler was installed. The most notable change with the new version is that a linker "bug" has been fixed. A "Summary of Known Restrictions in VAX-11 PASCAL Version 2.0" is available on-line. For a copy, type "PRINT " or "TYPE " followed by "NYU$AIDS:PASCAL2.0".

DEC's VAX-11 PASCAL Users' Guide and VAX-11 PASCAL Reference Manual were updated with the release of Version 2.0. Their publication numbers are respectively, AA-H485B-TE and AA-H484C-TE. The newest versions of the manuals are at the NYU Bookcenter and have been placed in all reference collections maintained by the ACF. They can also be telephone-ordered directly from DEC, and charged to a purchase order number or a credit card: dial 800-258-1710 to do so.

"HELP" now causes automatic search of NYU$AIDS. Typing the command "HELP command name" will now also cause a search of the AIDS library under certain conditions. The HELP utility will first search the HELP library for a major topic which corresponds to the "command name" of interest. If it does not find a match in HELP, it will then search the AIDS file. If there are entries in both libraries on the same topic, you will receive the HELP entry.

HELP is the DEC-supplied on-line "help" file. AIDS is an on-line "help" file of material that was not supplied by DEC as part of HELP. AIDS entries tend to be more discursive than the HELP entries, and some are written at a tutorial level.

Notes for Graphics Users

Calcomp 1675 Microfilm Software is available. Since the last issue of the Newsletter, Calcomp 1675 became available on the CYBER and the VMS/VAX systems. Calcomp 1675 is a system which can be used to record printed and graphic output on film. The system provides FORTRAN-callable subprograms for writing output to film, and includes subroutines for rotation, frame advance, repetition, and centering.
For more about Calcomp, CYBER users should refer to the on-line writeup "FILM". Paper-printed copies are available in Rooms 307 Warren Weaver Hall and LC-7 Tisch Hall.

**FTNPL0T now works under NOS 2.** FTNPL0T, a package of graphics routines which produce output for the Zeta plotter, is available to CYBER users once again. It was modified so as to work properly under the new version of the CYBER's operating system NOS. With FTNPL0T, a user can output his or her plots on tape, so that very large plots can be processed separately. For more information, see the CYBER writeup "FTNPL0T".

**Graphics terminals installed at Tisch Hall and Bobst Library.** Five Zenith terminals with graphics capability have been installed in Room LC-6 Tisch Hall. Two of the ACF terminals on the B-level of the Bobst Library can also be used for graphics. Terminals with graphics capability are marked with a broad yellow band.

**NCAR graphics applications discussed in second ACF Talk (Tues. March 8).** The second of this semester's ACF Talks dealt with the NCAR graphics system. The ACF's Ed Friedman spoke on applications of the NCAR graphics software on the CYBER and VMS/VAX systems at NYU. His presentation included sample uses of procedures that he has developed; these procedures make it easier for CYBER users to obtain graphics output. Also discussed was the interactive metacode translator supplied by NCAR for VMS/VAX systems.

The March 8 presentation was accompanied by displays of sample penplot and film output. David M. McQueen, of CIMS, showed a film illustrating how blood flow in the heart might be influenced by various valve configurations. Dr. McQueen produced the film using the CDC 6600 computer in conjunction with the Calcomp 1675 COM system, a microfilmer. He now produces similar films using the CYBER system and the Calcomp 1675. The films are made in joint work with Prof. Charles S. Peskin, also of CIMS.

(See page 7 for a description of other talks scheduled by the ACF for the spring semester.)

**Additional notes.** The GIGI terminals in Room 322 Warren Weaver Hall are now supported by the NCAR Metacode translator on VMS/VAX. Four colors (black, blue, red, and green) are now available in penplot output, through the NCAR library, on the CYBER and VMS/VAX systems. All the graphics spoolers are now in operation on all machines, with the exception of the microfilm spooler on the VMS/VAX machine.

The 1982 version of the NCAR graphics library is now available on the CYBER, as well as the VMS/VAX systems. It is slated to become the CYBER default version on April 1. To use it before then, type the command "OBTAIN,NCARLIB." A procedure file, GRAPHIC, will facilitate use of the NCAR graphics library on the CYBER. For a brief description, CYBER users should type "OBTAIN,WHITEUP=GRAPHIC". The current CYBER default version of the NCAR library is the 1978 edition.

* * *
UPDATE OF ACF USER SERVICES

Tutorial Sessions

**CYBER tutorial sessions.** This semester's "walk-in" tutorials were given at 14 Washington Place from February 7 through March 4, on Mondays at 4 and 6 p.m., Wednesdays at 10 a.m. and 6 p.m., and Fridays at 10 a.m. and 4 p.m. Tutorials in the use of the CYBER time-sharing system and in the text editor XEDIT were scheduled for each of these times.

**Specially arranged tutorials.** Faculty can arrange tutorials specially for their classes. Call Fred Huber (598-7851) if your class is using IBM WIDJETS; otherwise, call Frank Lopresti (598-2993, 460-7176).

Tutorials on the use of any ACF system can also be arranged for small groups of faculty and staff: call Frank Lopresti (598-2993, 460-7176).

**IBM WIDJETS tutorials.** "Walk-in" tutorials in IBM WIDJETS were offered this semester on Mondays through Thursdays at 5:30 and 6:30 p.m., February 14 through March 10. WIDJETS tutorials are given in Tisch Hall, Room LC-6.

ACF Talks and Seminars

**Introductory WIDJETS lectures.** This semester, the ACF also offered two evening lectures on WIDJETS use. The introductory level talks were open to instructors and students.

**Spring semester ACF talks.** Four ACF talks were scheduled for this semester, all to take place in Room 1302 Warren Weaver Hall at 1:15 p.m.

The first talk, "Programmers' and Instructors' Introduction to Interactive CYBER Use and Job Administration Under NOS 2", took place on Tuesday, February 8. "Hosted" by Frank Lopresti, the ACF's Ed Friedman, David Sullivan, and Elinor Kolchin discussed such topics as local and permanent file management and job administration techniques. (Some of these are included in the article on page 8 of this issue of the Newsletter.)

On Tuesday, March 8, Ed Friedman spoke on applications of the NCAR graphics software at NYU. A brief report of that talk appears on page 6 of this issue of the Newsletter.

The third and fourth ACF talks will cover introductory and advanced topics in the use of CYBER Control Language (CCL). Under NOS 2, users can easily write CCL procedures that encapsulate sequences of commands which they use frequently. Moreover, the procedures can be made to "interact" with the user in query-response formats. Under NOS 2.1, the version of the operating system which will be installed probably in late Spring, CCL procedures that produce "menus" will be possible. (See the item on page 1 of this issue of the Newsletter.) These and other features of control language applications will be discussed in the talks scheduled for Tuesday, April 12 and Tuesday, May 10.

* * *


THE CYBER'S NOS 2 IS A MORE USEABLE SYSTEM

[Editor's Note. The CYBER's operating system, NOS, was updated last fall from Version 1.4 to Version 2. We asked David Sullivan, who recently joined the ACF's Systems staff, to tell us about some of the new features which NOS 2.0 offers.]

CYBER users have probably noticed not how much has changed from NOS 1 to NOS 2, but how much has stayed the same. For the most part, all that could be done under NOS 1 can be done under NOS 2, and certainly no drastic changes have been made in the product set (i.e., compilers and such). Some users may wonder why the system was upgraded at all! In this article I hope to show some of the new features that may make your work on the CYBER more productive and enjoyable.

As you read through the article, you will notice numbers in parentheses. These are references to Control Data's NOS Version 2 Reference Set, Volume 3: System Commands, and (7-29), for example, means page 29 in chapter 7.

Job Management

NOS 2 provides for intelligent job management, by giving the user control over his or her job(s). Here are some of the features which will give you increased flexibility and control.

ENQUIRE. The ENQUIRE command (7-7) will tell you all that you need to know about the jobs that you have in the system (and even more than that, if you wish). With it you can enquire about all of your jobs (ENQUIRE,JSN), or a specific job (ENQUIRE,JSN:jsn or ENQUIRE,UJN:ujn).

JSNs and UJNs. The concept of job sequence name (JSN) is fundamental to NOS 2, and every job in the system will be given a unique JSN. It is often helpful, however, to assign your job a second, more meaningful, name. This is the "user job name" (UJN), and under NOS 2, you can set it for any particular job by means of a ROUTE (9-41) or a SETJOB (7-38) command, or on the job statement of a batch job (7-15).

Dropping jobs. Unfortunately, many jobs entered into the system can have silly mistakes in them. In the past, you could either dash to a phone and have the operator drop one of these, or (more usually) grin and bear it as the errant job ate up your account's resources. Accepting that 'to err is human', NOS 2 has a mechanism by which you can drop your jobs (and queued files -- like that listing produced by the program with the infinite loop, the one that embarrasses you by printing 'I = 1, J = 2' a zillion times while angry users look on). To remove a job or a queued file from the system, use the DROP command (7-6). As with ENQUIRE, you may identify the object to be dropped by either JSN or UJN.

The Wait Queue, and OGET. Not all of your errors become evident when you hit carriage return to send a job on its way. Sometimes you could swear that all will work fine. Yet, sure enough, something goes awry, and yards of trace information are sent to a printer, or stream out on your terminal screen. One way to avoid this is to have your job send its output to the Wait Queue. This
can be done with the SUBMIT command (7-44) or explicitly through the ROUTE command. Once a job's output is in the Wait Queue, you can retrieve it with the QGET command (7-29). Again, with QGET, you have the choice of identifying the output by either the JSN or the UJN of the job that generated it. A QGET'ed output file can be browsed through at your terminal, and you can then decide whether or not to print it. (Note that this also saves time since you need not wait for it to print to see if things worked. As a result, you can accomplish more things in a given time interval.)

**Detached Interactive Jobs**

Another nice feature of NOS 2 is that it enables you to end what you are doing on a terminal and start up fresh, while retaining the ability to pick up the original session where you left off. This is tremendously useful when, for example, you need to do a compilation which may take a few moments, and can productively do some more work, say edit another file, while your program is compiling. (NOS 2 recognizes that humans can parallel process, too.) The mechanism to accomplish this is called 'detach', but there is no system command for this per se. Instead, you type "ctD" (8-12), where "ct" is the network control character for the terminal you are on (usually the ESCape key). Once the job is detached, you automatically start up as a new job, and are given the opportunity to recover your detached job(s) or continue the current (new) job. You may use the ENQUIRE command to see what your detached job is doing; when you decide you want it back, you can type RECOVER (8-19). (Here you MUST ask for the job by its JSN.)

You need not recover detached jobs, however, and this provides yet another way of getting work done in an efficient manner. Jobs will continue in the detached queue as long as they require no terminal input or send no output to the terminal. So, if you have a procedure, it can run in detached mode until completion. A job that either has finished in the detached mode, or has reached a point at which it requests terminal I/O, will 'suspend' itself. A suspended job will not remain in the system indefinitely; after a certain period of time has elapsed (currently, half an hour), the system will remove the job, and you will no longer be able to recover it. Of course, you have control over these detached jobs, as you would have over any other, and can DROP them if you desire.

**In Summary**

The best way to learn any new facet of an operating system is to experiment. However, I urge you to look at CDC's NOS 2 Reference Set, Volume 3: System Commands. Glance through the table of contents (to get a feel for the manual), and read chapters 3, 7, and 8. Once you become familiar with the capabilities presented by NOS 2, you will find that you can develop a style of usage suitable to your specific needs. This is the very philosophy behind NOS 2: provide the user with a simple yet flexible means of accomplishing work.

— David Sullivan

**[Documentation Note.]** Volumes 1, 2 and 3 of CDC's NOS Version 2 Reference Set are all sold at the NYU Bookcenter (lower level). Reference copies are available in the ACF reference racks at 14 Washington Place and in Rooms LC-8.
Tisch Hall and 313 Warren Weaver Hall; in the Computer Science Department's Help Room (1128 Warren Weaver Hall); in the CIMS Library; and at the Bobst Library Reserve Desk.

If you are unfamiliar with NOS Version 2, or if you are a programmer or instructor who needs an introduction to CYBER use, you should probably begin with Volume 2. It is a new manual which promises to be very helpful. An item on page 3 of this issue of the Newsletter cites the sections and pages which most users should review.

* * *

Comments Invited

If you have any comments, suggestions, or queries, please mail them to Estelle Hochberg, Editor, ACF/NYU Newsletter, 251 Mercer Street, New York, N.Y. 10012. Please mark the letter "For Inclusion In Newsletter". All letters will be read. Those of general interest will be considered for publication in the next issue of the Newsletter.
SUMMARY OF ACCESS TO NYU/ACF COMPUTING SYSTEMS

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* "WIDJETS" is a terminal-oriented job creation, editing, and submittal system. There are 28 WIDJETS terminals in Tisch Hall LC-8. Accounts are available from the site manager.

** Strike "return" to activate computer selection. Select system. Then "return" to initiate log-in on CYBER and VAX; "shift-P, return" on IBM.

+ 4141 will access the MICOM only if dialed from a 598 number within N.Y.U.
INFORMATION AND DIRECTORY

Accounts
305 WWH, Mon - Fri, 9 a.m. to 5 p.m., 460-7427

Administration and General Information
305 WWH, Mon - Fri, 9 a.m. to 5 p.m., 460-7427

Dial-Up Numbers (See previous page for further details.)

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Documentation

ACF/NYU Newsletter is mailed to holders of Individual Accounts on the CYBER, IBM, or VAX. Inquiries: Estelle Hochberg, 306 WWH.

ACF Introduction and Directory, for holders of Individual Accounts: single copies are available in Rooms LC-7 TH and 305, 306, and 307 WWH.

Bookstore (N.Y.U.), 23 Washington Place, stocks commercially published software manuals. Inquire at information desk, lower level. Computer tapes are sold at stationery counter.

ACF Writeups, CYBER: Use "obtain(writeup=qindex)" for information.

"  "  IBM: Batch, use "/ exec manuals, name=index", after your jobcard. WYLBUR, type "u wyl.pb.pub.manual.index", then "list".

Limited supplies of ACF guides and manuals are also distributed from 14 WPL, operators' desk, Mon - Fri, 9 a.m. to 10 p.m., Sat 9 a.m. to 6 p.m.; TH Room LC-7, Mon - Sat, 10 a.m. to 5:30 p.m., 598-7851.

Multiple Copies of ACF Writeups for Classroom Use: Estelle Hochberg, 306 WWH for CYBER; consultants, LC-7 TH, for IBM.

On-Line Help Utilities (CYBER, VMS/VAX, IBM WYLBUR): Type "help", strike return key.

On-Line News Bulletins are important sources of information on systems and operations, training sessions, new documentation, user and programming hints, and so on.

CYBER News: Use "obtain(writeup=news)" for time-sharing or batch. Replaced weekly.

IBM News: Updated as needed. Batch, use "/ exec ibmnews".

WYLBUR, type "u wyl.pb.pub.ibmnews(current)", then "list"; or type "help ibmnews".

VMS/VAX BBOARD: Type "bboard"; strike return key to list each message; type "help" for further instructions; type "exit" to quit.

Reference Copies of Manuals: 14 WPL, TH Room LC-8, WWH Room 317; selected CYBER and VMS/VAX manuals are also available at the Bobst Library Reserve Desk (instructor is listed as "Computer"), the CIMS Library, and the Computer Science Department's Help Room (1128 WWH). For CYBER, type "obtain(writeup=reflist)"; for VMS/VAX, use "print nyu$lib:vaxman.doc".

(CONTINUED on following page)
Equipment Problems  at 14 WPL  Site Manager  at TH  " " , Room LC-7  at WWH  Operations Personnel, Room 312, or 460-7414  ACF Terminals at Other Locations: 460-7414

Street Addresses  Warren Weaver Hall: 251 Mercer Street  Tisch Hall: 40 West 4th Street  Bobst Library: 70 Washington Square South

System Status  CYBER, VAX: 460-7285 (recorded message)

Tape Librarian:  Tape Purchase:
CYBER, VAX  460-7155  NYU Bookstore
IBM  598-7901  stationery counter

Tape Questions and Requests:
CYBER, VAX  460-7155  IBM  598-7851

Terminal Problems (ACF equipment only): See Equipment

User Services

Student Advisement
CYBER: 14 WPL  460-7176  CYBER, IBM: TH Room LC-7  598-2993

Consultants
CYBER: TH Room LC-7  598-7851  IBM: TH Room LC-7  598-7851
WWH Room 307  598-3970
460-7398

Hours for Consultants and Student Advisers are posted at 14 WPL, WWH outside Room 305, and TH Rooms LC-7. See the CYBER writeup CONSULT for advisers' hours.

User Work Areas  Mon - Fri 9 a.m. to midnight, Sat 9 a.m. to 4:45 p.m. *
(Note: WWH facilities are for faculty and researchers only.)

CYBER: Interactive terminals, self-service printers 14 WPL, TH Room LC-8 *, WWH Room 317; Bobst B-level * Card readers TH Room LC-14, WWH Room 312 Keypunches TH Room LC-14, WWH Room 310 Output folders (high speed printers) TH Room LC-14, WWH Room 312

VAX: Interactive terminals, self-service printers 14 WPL, TH Room LC-8, WWH Room 317; Bobst B-level * Output folders (main printer) WWH Room 312

IBM: Interactive terminals WYLBUR TH Room LC-8, WWH Room 317, Bobst B-level * WIDJETS TH Room LC-8 Card reader TH Room LC-14 Keypunches TH Room LC-14 Output folders TH Room LC-14

* The ACF terminals on the B-level of Bobst Library are available during all library and study-hall hours. There are no ACF printers at Bobst.

Key WWH: Warren Weaver Hall; 14 WPL: 14 Washington Place; TH: Tisch Hall.
The figure shown on this page was contributed by Professor Suse Broyde of the Biology Department, GSAS, who produced the plot as part of a study currently in progress. The study's purpose is to investigate how a chemical carcinogen known as AAF may initiate the carcinogenic process by damaging the genetic material, DNA.

This drawing shows the carcinogen attached to a small portion of DNA. The carcinogen is the branch extending down leftward from the apex.

Professor Broyde produced the plot on the CYBER system by means of the program ORTEP (Carroll Johnson, Oak Ridge National Laboratories). It was output on the ZETA plotter.

**COVER DESIGN:** Demonstration plot for the HAFTON package, part of the NCAR SCD Graphics System. The figure was produced on the CYBER and by means of the ZETA plotter.