NEWS

for Teachers of Political Science

A Publication of the American Political Science Assoc.

In this issue... Spring 1983 No. 38

A focus on Micro-Computers with articles on:

- selecting hardware, p. 1
- distributing software, p. 10
- instructional programs:

And articles on:

A Special Supplement, pp. S-1 to S-4 on a telecourse,

CONGRESS: WE THE PEOPLE

Microcomputers in Political Science

by Herbert F. Weisberg, Ohio State University

We are now entering a new era of computing in political science. The first era was marked by punched-card technology. Initially, the most sophisticated analyses possible were frequency counts and tables produced on a counter-sorter, a machine that specialized in chewing up data cards. By the early 1960s, batch processing on large mainframe computers became the predominant mode of data analysis, with turnaround time of up to a week. By the late 1960s, turnaround time was cut down to a matter of a few minutes and OSIRIS and then SPSS (and more recently SAS) were developed as general-purpose data analysis packages for the social sciences. Even today, use of these packages in batch mode remains one of the most efficient means of processing large-scale data analysis.

The 1970s were marked by a shift to an era of interactive computing. The computer terminal and cathode ray tube linked through phone lines or dedicated cable to large mainframe computers began to replace the keypunch and punched card. At first this new technology was just used to prepare setups for batch programs, but by the late 1970s MIDAS and SCSS provided truly interactive analysis packages that actively prompted the user for analysis requests and options. The time-sharing technology also permitted efficient use of the computer for text-processing, so much so that the computer is often used more for writing papers than for data analysis. Electronic mail, computerized bulletin boards, and computer conferencing became new forms of telecommunications.

By the 1980s, a new era of "distributed computing" became evident, with computers being given to smaller and smaller units rather than relying on a single large mainframe computer. The movement has been spurred on by three simultaneous developments; an exploding use of computers with which even the best interactive systems cannot keep pace, miniaturization of computing equipment so that the power of a large 1960s computer can now fit into a desk-top machine, and a dramatic fall in the equipment cost. In some research institutions, this has meant purchase of a minicomputer with associated terminals to handle the needs of a department. But more and more, the shift is to microcomputers, the small desk-top personal computers.

The media-hoopla on personal computers is obviously considerable, with the peak being *Time* magazine naming the Computer its "Man/Machine of the Year" for 1982. Fortunately, there are many fine attempts to explain the microcomputer revolution to the public including the article by Hoo-min D. Toong and Amar Gupta on "Personal Computers" in the December, 1982 *Scientific American*, the section on the "Silicon Chip" in the October, 1982 *National Geographic* the articles on buying computers in the spring, 1983 issues of *Consumers Reports*, and the February 22, 1982 *Newsweek* article on computers.

It is too early to predict the final directions and scope of this new era in computing, but it is already typified by an emphasis (some would say an over-emphasis) on "user-friendly programs." Computer people are finally realizing that computer use can move down to the masses only when users need no longer learn such things as operating system control cards (those infamous JCL cards) or even simpler program control cards (like SPSS instructions). Instead, the user is shown (in words or even in pictures) a set of possible options and then chooses the desired option. User-friendliness is still more of an ideal than an accomplishment, but microcomputer programs already are generally easier to use than those on large machines.

An Interactive Instructional Program

By G. David Garson
North Carolina State University

Microcomputing puts an amazingly versatile instructional tool into the hands of political scientists. It provides the ability to do far more than process data in ways political science SPSS and SAS users are familiar with. Microcomputing enables the student to interact with instructor-provided programs which provide immediate feedback tailored to the student's speed and abilities.

One example is a program which will poll voters and provide instantaneous feedback on the results of an individual's vote as averaged with all previous votes. Our department uses this program on "Open House Day", a high school oriented outreach. It replaces an earlier manual version of the same thing in which visitors to the department's display were asked to vote on forms which were tallied later. By using a microcomputer to provide immediate results the whole process is made more interesting for all concerned. This program not only does something useful but also is short and simple enough to provide an introduction to programming.

Our computer laboratory found the Apple to be the right choice for our general microcomputing needs although in the area of dedicated word processing we found it desirable to investigate alternatives such as the Osborne (probably the cheapest stand-alone word processing solution) and the Compustar (which has outstanding capabilities for supporting many terminal stations running off the same microcomputer). We have also used the Commodore Pet, the TRS-80, and the Atari 800, but have not found their unique features compelling enough to incorporate into our system.

AN INTRODUCTION TO APPLE SOFT

The "Open House Voting Poll" illustrates the nature and versatility of programming in Applesoft Basic. This program will allow voting for up