

A Comparison of Microsoft Word for Windows¹ Version 2.0 with Lotus Ami Pro for Windows² Release 2.0

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CONFIGURATION

These tests of Microsoft Word and Lotus Ami Pro were performed on a Toshiba T3200 laptop which was configured with 4 MB of RAM and a 40-MB hard disk. The operating system was MS-DOS 5.0; the window environment was Microsoft Windows 3.1 and the desktop manager used was Norton Desktop for Windows 2.0. The machine was barely adequate for the job, and I was not able to have full versions of both Ami Pro and Word on the machine at the same time. Even with real-time data compression using a product like Stacker to effectively double the hard disk capacity (which I was not using for this test), there is not much "real estate" left on a 40-MB hard disk by the time you have loaded DOS (2 MB), Windows (8–10 MB), a desktop manager, virus checker, etc. (9 MB), and one or more applications such as Word (5.5–14 MB). The current generation of software requires an effective minimum hard disk size of 80 MB for the average user, and each new version or major software update seems to add another 10–20 MB in total to the average user's hard disk requirements.

BACKGROUND

I converted from using a DOS-based word processor (WordPerfect 5.0) to a Windows-based word processor (Ami Pro 1.0) almost a year ago, and have used Ami Pro version 2.0 as my preferred word processor since its release. I have used a DOS version of Word in the past, and I was intrigued to compare the new version of Word for Windows with both Ami Pro and DOS-based word processors in general. I particularly wanted a second opinion on the ease of transition from WordPerfect to Word (I will now use "Word" to refer to the Windows version unless I specify otherwise) as this has been a design goal of Microsoft for Word version 2.0. I asked a colleague who was familiar with both WordPerfect and Windows (but not a Windows-based word processor) to try the package.

FIRST IMPRESSIONS

Microsoft Word is easy to learn and easy to use. The Word Workplace (as Microsoft have dubbed the screen layout) is well designed and, although it is slightly different in concept to the Ami Pro screen, I found no difficulty in finding my way around the user interface without using the manual. The Help system is extensive and powerful, with context sensitive Help screens being available in most circumstances. The documentation is highly professional—in fact, it is so good that it seems a pity that most users will never read more than a small fraction of the almost 850-page User's Guide! My colleague made the transition to Word without any problems and did not need the facilities (which include a special help system) provided to help users of WordPerfect 5.0 and 5.1. This help system allows users to input WordPerfect keystrokes and look up functions using WordPerfect terminology, and in addition, it continually monitors for WordPerfect keystrokes

and, when these are identified, gives a slow-motion demonstration of how the same procedure is accomplished in Word.

SCREEN LAYOUT

Microsoft, following the current trends in user interface design, have introduced a "Toolbar", a user-configurable set of icons which give access to the commonly used functions and commands. For example, Word, as with most Windows applications, has a "Print" command on the "File" drop-down menu which, when selected, presents the user with a dialog box for control of numbers of copies, etc., but in addition, Word has a printer icon on the toolbar which sends one copy of the current document to the default printer. Hence, the toolbar icon often presents a more direct route to achieving some action when the action (such as printing) does not require setting of parameters (such as the number of copies). Ami Pro also has user configurable "SmartIcons" which can be positioned wherever the user chooses on the screen (top, bottom, left, right, or a floating palette). There should be some standardization of the symbols used on the icons, some being more obvious than others (for example, I prefer the "paste pot" icon in Ami Pro to the "clipboard" in Word on the icon for pasting from the clipboard). Both Word and Ami Pro provide easy-to-use methods for adding, deleting, or changing the icons which appear on the toolbar or palette.

Below the toolbar, Word has another row of buttons and drop-down selection menus for controlling the text style, font, point size, bolding, italicizing, underlining, justification, and insertion of tabs, etc. For some reason, which is not clear to me, this is called the "Ribbon". In Ami Pro, some of this functionality is provided by SmartIcons on the palette and the remainder by pop-up selection menus arranged along the bottom of the screen. Word uses this line at the bottom of the screen to display page number, section number, position on page (both in inches and by line, column, and section numbers), and the zoom factor, but when, for example, the left mouse button is held down over a toolbar icon, this information is replaced by help messages. Ami Pro displays these help messages on the title bar but also uses the bottom line for position information and has a useful icon for hiding the SmartIcon palette.

Below the ribbon, Word has the "ruler" which allows you to change paragraph indents, adjust margins, change the width of newspaper-style columns, change the width of table columns, and set tab stops. This method of formatting text is intuitive. For example, to change the margin width, the user selects the margin ruler (there are three types of ruler available: indent, margin, and table; indent is the default scale) and drags the symbol for the left margin to a new position. The text is reformatted instantly as soon as the mouse button used to drag the margin symbol is released. Ami Pro also has a ruler with many of the same facilities as the Word ruler, although the symbols and style of use differ to a small degree.

In a fully configured Word screen, the space available for viewing the document is reduced to about 60% of the total screen. However, display of the toolbar, ribbon, and ruler are

optional and can be easily removed by selecting the appropriate menu item from the "View" drop-down menu. Each document is displayed in a separate window with vertical and horizontal scroll bars to the right and at the bottom of the window, respectively. Editing of documents is facilitated by being able to display two or more windows simultaneously so that two documents, or two views of the same document, can be seen at the same time. Although, theoretically, three or more windows can be open (the maximum is eight), the practical limit is two windows on the screen of a laptop. Ami Pro has similar facilities for viewing multiple documents but has the advantage over Word that the initial display, when opening a new window, is of several documents in a staggered stack which eases the selection of the document to be edited.

SAVING AND PRINTING DOCUMENTS

Both Word and Ami Pro use the standard windows dialog boxes for file opening and saving. Careful adoption of the Microsoft guidelines for developing Windows applications by software developers leads to an easy transition from one Windows application to another, particularly in the areas of file management and printing. Both packages have options for automatically saving the current file every few minutes. Anyone who has experienced the frustration of losing work through a power failure will appreciate this feature!

Microsoft Windows provides a common printer service to all applications, and once a printer has been installed for Windows then all applications have access to the printer. Typically, selection of "Print" from the "File" menu leads to a dialog box in which the number of copies to be printed is selected but which also provides access to the printer setup window from which font cards, orientation, default printer, etc., can be chosen. The choice of printer determines the fonts made available to the user in the font-selection menu, and users need to be aware of this when changing the default printer while editing a document. Version 3.1 of Microsoft Windows provides TrueType fonts for the first time, and when Word or Ami Pro are run under Windows 3.1, they become truly WYSIWYG (What You See Is What You Get) as the representation of the characters on the screen is identical to the same characters on the printed page. Ami Pro used the Adobe Type Manager (ATM) to achieve this effect before Windows 3.1 became available. ATM also works under Windows 3.1 but, at present, I have some unexplained problems left over from documents which were created in Ami Pro under Windows 3.0 using ATM. Ami Pro has a useful additional program, AmiPrint, which, optionally, performs printing in the background and allows the user to continue working while printing is completed.

Both Word and Ami Pro provide "print quality" output on a laser printer at 300 dots/in. and, for most users, there is no need to purchase both a word processor and a desk-top publishing package, as many of the features of DTP are now found in Windows-based word processors. Text may be easily formatted in multicolumn layouts for newsletters, etc.; diagrams and text may be included in "frames"; tables are easily created; simple diagrams and charts may be inserted automatically in documents by invoking the drawing and charting options which are activated by clicking on the appropriate icon. Word has, in addition, a graphical equation editor which enables the user to paste mathematical and other scientific equations into a document. I found the use of frames in Word less intuitive than in Ami Pro, but that might just reflect familiarity with the latter program. In Word, I had problems trying to use multiparagraph text in a frame and I

also had unexplained effects when viewing pages containing frames in different viewing modes.

For sophisticated users, Word provides headers and footers, footnotes, and the use of portrait and landscape layout in the same document. A useful feature found in both Word and Ami Pro is the ability to format with "Styles". A style is a group of formatting instructions that the user can name and store. Using styles can drastically reduce the amount of time the user spends formatting documents. Suppose there are paragraphs throughout the document that the user wants to be bold, centered, and surrounded by a border. Instead of applying each format to each paragraph, the user can create a style that applies all three formats at once. Not only are styles faster than manual formatting, they help ensure a consistent format. Styles also make it easy to incorporate design changes. Changing the content of a style reformats all paragraphs with that style throughout the document. For example, if the user wants all paragraphs formatted with the style "title" to have a border, the user could simply change the definition of the "title" style to include a border. Word saves styles with the documents for which the user creates the styles. Because the user can copy styles between documents and templates, the user only has to create a set of styles once. Word comes with standard styles that it applies automatically to items such as footnotes and tables of contents. Ami Pro offers a wider selection of ready-to-use styles which can be used as they are or adapted by the user.

EDITING DOCUMENTS

Both Word and Ami Pro provide a number of viewing modes which assist editing. Normal mode provides an on-screen display of the final document including all typefaces and special effects. In draft mode, a single typeface is used, underlining is used to indicate character formats such as bold and italic, and each picture is displayed as an empty frame. Draft mode speeds up editing processes such as scrolling and makes it easier to read and select text that appears in a small font size. There are "page preview" modes for checking the appearance of a page when layout is important, and different zoom factors which can be applied.

An editing feature unique to Word, is the ability to "drag and drop" highlighted text making reorganizing text a joy instead of a chore. Both packages provide "search and replace" options which allow the user to replace all occurrences of a text string or to control the replacement of the text string as each instance is displayed. There are also facilities for comparing documents and automatic "redlining" of differences between versions of a document.

The proofing tools in Word can help users to quickly find and correct many common writing errors. The proofing commands can be used to:

- check spelling
- check for grammatical and stylistic errors
- find a synonym for a particular word
- hyphenate words

Text in other languages can be proofed by formatting characters with the "Language" command. Word will then automatically switch to the language indicated for each word while proofing the document. Ami Pro supports spelling checking by using different dictionaries but not the checking of several languages in the same document.

COMPOUND DOCUMENTS

As already implied, Microsoft Windows provides sophisticated facilities for moving text and diagrams between

applications and for providing links between applications. Users of graphical user interfaces have long been used to the concept of the clipboard, a temporary storage area for holding text, diagrams, or other information to facilitate data transfer between or within applications. "Dynamic Data Exchange" (DDE) provided a method for automating the transfer of information between one application and another. In Windows 3.1, "Object Linking and Embedding" (OLE) takes this process one step further. Linking permits the creation of a document that includes information created in another application. By copying a selection from a source document and pasting it into a destination document, the destination document will be updated any time the information changes in the source document. The frequency of update is under the control of the user.

Embedding allows the creation of documents that include information such as structure diagrams, charts, graphics, and spreadsheet data created by other applications that support Windows and object embedding. There must be enough memory to run all of the applications that are being used in a given document at the same time. Embedding is used instead of linking when there is no need to update the information dynamically but, rather, the user wants to edit and format the information from within Word. For example, a chemical structure diagram created in another application can be used in a Word document. All the information used to create the diagram is kept with the graphic that is inserted in the Word document. If the user, while working in the Word document, decides to edit the object—for example, to change the stereochemistry—it is only necessary to select it by double

clicking on the structure diagram. Word opens a window to the application in which the diagram was created, the editing or formatting changes are made, and on switching back to Word, the object is updated with the changes made. Ami Pro also supports DDE and OLE.

CONCLUSION

Both Word and Ami Pro are a significant improvement over previous generations of word processors and contain many features which will assist scientists in their work. The ability to insert chemical structures, graphs, and tables in documents and to see the results on the computer screen before printing improves scientists' efficiency and the quality of the presentation of their results. The choice between Word and Ami Pro is hard to make and is probably determined by the preference for the spreadsheet, presentation graphics, and other package software designed to work closely with the word processor. For example, a combination of Word and Excel may be preferred to Ami Pro and Lotus 1-2-3 or vice versa. Although I have enjoyed using Word to prepare this review, I will continue to use Ami Pro in preference, as I am familiar with Ami Pro and have seen no overall advantage in changing.

REFERENCES AND NOTES

- (1) Word for Windows version 2.0, Microsoft Corp., One Microsoft Way, Redmond, WA 98052-6399. Suggested Retail Price \$495.
- (2) Ami Pro for Windows Release 2.0, Lotus Development Corp., Word Processing Division, 5600 Glenridge Drive, Atlanta, Georgia 30342-1334. Suggested Retail Price \$495.