



# PC TAP

## Consumer Report

**Grammar Checkers**

***Open Forum***  
**Low-Cost Macintosh Printers**

**Report #10**  
**December 1990**



**PC Technology Assessment Program**  
**EPA National Data Processing Division**  
**Information Centers Branch - RIC II, MD-35**  
**Research Triangle Park, NC 27711**  
**Telephone: (919) 541-0568 (FTS) 629-0568**



*Printed on Recycled Paper*

## PC TAP CONSUMER REPORTS

### From the Editor's Desk

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As we put the final touches on this *PC TAP Consumer Report*, we're painfully aware of the fact that you haven't yet seen the last one, *PC TAP Consumer Report #9*, which features our second report on Microsoft Windows 3.0. That publication was sent to the print shop at EPA Headquarters in Washington during the week of October 29. We apologize for the print shop's difficulties in producing our Report #9, and we sincerely hope they resume their usual one- to two-week turnaround service with the present issue.

The topic of this report, software grammar checkers, is an interesting one, especially for those whose duties require them to write materials for general distribution. Although correctness of language might not be of great importance for informal, internal correspondence, most authors want to be confident that material written for wider distribution or for public scrutiny follows generally-accepted rules of good usage. While the products reviewed in this report won't make everyone's prose sound like the work of a professional writer, they probably can help conscientious writers avoid common grammatical pitfalls. We hope you enjoy reading the opinions of our grammar checker reviewers.

In this issue's *Open Forum*, beginning on page 16, Dave Levesque describes his investigation into the area of low-cost printers for the Macintosh. Dave, an IC consultant at the Washington Information Center, has lots of experience with the Mac, and his search for an under-\$1,000 300-dpi printer should be interesting for our readers who have Macintosh computers in their offices.

The PC TAP External Resource Network (ERN) is still growing. We're gratified by the response this idea has generated, and we're pleased with the excellent cooperation from the ERN representatives in our PC TAP evaluation studies. Another update on the people who make up the ERN can be found in *This & That* on page 18.

As 1990 draws to a close we are reminded of the advances that have been made in desktop computing this year. LANs are spreading like wildfire, and *Windows* is the byword in the industry. Within EPA, a new PC procurement contract offering more powerful hardware is in place, and the first NDPD combined conference was a resounding success. It has been a year of great progress in Agency computing, and we're pleased to have been a part of it.

The target of our first major study in 1991 is dBASE IV version 1.1. We will be looking at the viability of both the standalone and networked versions as a data base product, and at what's involved in migrating from dBASE III Plus to dBASE IV. We look forward to bringing you our findings in the new year.

David A. Taylor  
PC TAP Coordinator

# Grammar Checkers

## Introduction

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The fact that most folks dread the task of expressing themselves through the written word is probably one of the main reasons why those of us who like to write are kept busy. Today's word processing packages provide easy text formatting to help novice writers prepare good-looking written communications, and they usually include spell checkers to enable us to eliminate embarrassing misspellings from our writings. As a result, it's fairly easy to produce attractively formatted prose that's free of misspelled words, but which also may contain atrocious grammar and makes little sense to the reader.

Enter the software grammar checker! These products are often called *grammar/style checkers*, because they frequently have a built-in capability to check the "style" in which a document is written, as well as its grammar. For example, you might indicate that the writing is intended for a "technical" audience, or that it is aimed at readers with a specific level of education. The software then performs its checks with consideration for the characteristics and reading ability it associates with the audience you've specified.

It's easy to latch onto a grammar checker with the assumption that it will solve all your writing problems, and that it will make you a great writer; after all, that's what some of the advertisements suggest. This is especially true if you have to do a lot of writing and you don't like to do it, or if you perceive that you aren't very good at it. A program that promises to fix all your writing problems is just what the doctor ordered! Unfortunately—and not unexpectedly—these programs aren't the panacea they might appear to be. Nevertheless, they aren't without value to the writer who's looking for a tool to help hone his or her wordsmithing skills.

### Benefits of Grammar/Style Checkers

Although grammar and style checkers aren't able to analyze a document's content, their capabilities to perform mechanical checks exceed those of word processing spell checkers. Not only do many grammar checkers correct spelling, but they search documents for errors in word usage, mechanics and punctuation, sentence structure, and subject-verb agreement. Some programs generate summary statistics indicating the grade level of the writing, word frequency counts, and the average length of sentences contained in a document.

Many writers report that they find these programs indispensable. Often when they're too tired and bleary-eyed to continue proofreading their documents, they let a grammar checker program do the work. On the other hand, some writers associate a high level of frustration with grammar checker usage. Contributing to this point of view is the fact that some grammar and style checkers are characterized by numerous inconsistencies. Not only do they find a disproportionate number of false problems, but, when used indiscriminately, they can contribute to more writing problems. For example, a poor writer who's unable to distinguish among the program's inaccuracies will be unable to assess correctly its recommendations. Grammar/style checkers are adequate proofreaders, but the writer must be able to interpret and draw conclusions about the software's grammatical advice.

## How They Work

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Grammar and style checkers have advanced significantly since they first appeared at the beginning of the 1980's. The early programs scanned documents, one letter at a time, searching for strings of text that exactly matched words or phrases already assembled in a software "phrase dictionary." Like programs now on the market, they flagged passive voice, sexist language, jargon, and mechanical errors. However, the first-generation programs had a minimal understanding of grammar and style because they could not capture the relationship between words in a sentence.

Today's grammar checker software products use grammar "parsers." Remember the sentence diagrams you constructed in grade school? Grammar and style checkers operate in much the same way; they compare each word in a sentence to a dictionary file listing the parts of speech of common English words. Included in the dictionary are irregular verb conjugations, and singular and plural forms of words. Once the program identifies each word's range of potential functions, the parser examines the order in which the words are placed, determines the main grammatical components of a sentence, and "diagrams" it.

Each sentence is parsed into dependent and independent clauses, and subjects and predicates. Words are identified as articles, adjectives, prepositions, adverbs, and other parts of speech. The program checks subject verb-agreement; if the verb is plural, the software checks to see that the subject is plural too. Then the program might compare the text with its dictionary of objectionable words and phrases and flag those it finds for the user's benefit. Finally, any errors that were found are matched with an entry from a table of messages like "No verb in the sentence" or "Word is overstated or pretentious." This advice then is presented to the user.

### Readability Index

Most grammar and style checkers generate a *readability index* that indicates how much difficulty the audience may have reading a document. Most products allow the user to indicate an audience of a general type (e.g., business, technical, academic) or grade level (8th grade, 10th grade, 12th grade, etc.). The characteristics of the specified audience then are taken into consideration when the readability index is calculated.

One or more of three different techniques commonly are employed by these programs to calculate the readability index: the Flesch-Kincaid Grade Level, the Flesch Reading Ease Index, and the Gunning Fog Index. The Flesch-Kincaid Grade Level formula yields a number corresponding to the educational grade level required of the reader. A Flesch-Kincaid score of 10, then, equates to the 10th grade; individuals with less than a 10th-grade reading level probably will find the text difficult to understand. Here are the steps to calculate the Flesch-Kincaid Grade Level index:

1. Multiply the average number of words per sentence by .39.
2. Multiply the average number of syllables per word by 11.8.
3. Subtract the sum of the values from steps 1 and 2 from 15.59 to obtain the grade level.

The Gunning Fog Index also reports in terms of grade level as an indication of the difficulty of your writing. Based on an assumption that multi-syllable words and convoluted sentences make the document more difficult to read, the Gunning Fog Index is calculated like this:

1. Calculate the average number of words per sentence.
2. Find the number of words with 3 or more syllables.
3. Multiply the sum of the values from steps 1 and 2 by 0.4 to obtain the Fog Index.

The Flesch Reading Ease Index is graded on a scale of 1 to 100. The higher the number, the easier the document is to read. Writing at the "standard" Flesch level of 60 to 70 translates to about the 7th or 8th grade level. The following table aids in the interpretation of the Flesch Reading Ease Index.

Score	Reading Difficulty	Approximate Grade Level
90-100	Very Easy	4th Grade
80-90	Easy	5th Grade
70-80	Fairly Easy	6th Grade
60-70	Standard	7th-8th Grade
50-60	Fairly Difficult	Some High School
30-50	Difficult	High School-College
0-30	Very Difficult	College Level and Up

### The Flesch Reading Ease Index

Many federal and state agencies are beginning to mandate the use of readability indexes as a means to ensure that critical documents can be understood by most Americans, especially where legal documents and regulations are concerned. And use of a readability index to help authors create routine documents is just the tip of the iceberg for this type of software. The next step in the evolution of grammar/style checkers is on the horizon: *style replicators*. These programs create "style models" against which other prose can be compared. For example, a common set of writing characteristics can be defined, and documents can be compared with that standard. In a matter of seconds, a writer can get a report from the software about sentences within a document that aren't in harmony with the organization's established standard style, along with suggestions about changes that will bring the new document more in line with the desired norm. For an organization, there are clear advantages to this approach to writing. With confidence that the style model will detect deviations from the desired "look and feel" of a piece of writing and the grammar checker will take care of linguistic mechanics, managers and editors can concentrate on the *content* of a document rather than spelling, grammar, and style.

### Operating Features

While all four of the products we evaluated allow some flexibility and user control over the way in which the program operates, significant differences among them remain. Some offer the user more options than others. Not all of them check writing style. However, most grammar/style checkers will provide most, if not all, of these features:

- **Word Processor Selection.** Some programs have a comprehensive list of word processors they support; others support fewer specific products, along with ASCII files.
- **Style Checking.** Several products allow the user to specify that the writing is intended for a specific type of audience, like "general" or "technical;" or that it's geared for readers with a particular level of reading ability, like "high school" or "college grad."

- **Rule Setting.** All grammar checkers operate according to certain rules. Some products have a greater number "rule classes" (punctuation rules, grammar rules, style rules, etc.) than others, and the number of available rules and rule classes varies among products. However, in most cases the user has some control over the nature and complexity of the checks that will be made on a document, and will be able to "turn off" rules that perform unwanted checks. For example, much technical report writing is done in the passive voice. Grammar checkers invariably encourage use of the active voice, and they flag every instance of passive voice in a document. The software should offer the user the option of turning off the "passive voice rule."
- **Operating Mode.** Some grammar checkers offer more than one operating mode. In batch processing, for instance, the user simply enters the name of a text file to be checked and the name of an output file in which the "marked up" copy should be placed. The software runs the grammar checks, and places a copy of the original text, along with remarks and highlighted errors, in the designated output file. The user then must use his or her word processor to retrieve the "marked up" copy for review. Some programs also offer an interactive mode, in which the software goes through the document, highlighting "errors" in much the same way that WordPerfect's spell checker operates. The user has the option of correcting the error on the spot interactively, either by selecting the software's recommendation or by performing his or her own edits. At the end of the interactive grammar checking session the user may elect to replace the original with the revised version, or to save the corrected copy under a new name.

Most users seem to prefer the programs that offer the most flexibility. Some of our evaluators were very critical of any program that didn't offer interactive grammar checking. They said it was too much trouble to leave the grammar checker and go to the word processor to look at the marked up copy and make corrections. Others said the interactive check was too tedious. These individuals don't want to see each error as it's flagged, they just want an annotated copy that they can scan to select only the revisions with which they agree. As we've said in other PC TAP reports, "different strokes for different folks." In the discussions that follow, we'll point out the ways in which these characteristics are employed in each package.

## Software We Tested

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Many of the articles we found about grammar checkers refer to the same three products: *RightWriter* from RightSoft Inc.; *Correct Grammar*, from Lifetree Software; and Reference Software's *Grammatik*. Although these three definitely appear to be the front runners among grammar checker products, we found another, from Lexpertise USA, called *PC Proof*. All four of these products are available for the Macintosh; the first three retain their same names, with something like "for the Macintosh" added on; *PC Proof* becomes *MacProof* in the Macintosh world. Essentially, operation of all four products is functionally equivalent in both environments; but, not unexpectedly, procedures differ somewhat between the Mac and the PC. The following discussion is based on using *Correct Grammar* on an MS-DOS machine. In the following paragraphs, we will discuss each product primarily as it's used on a DOS machine, with pertinent

comments from our Mac evaluators. We'll provide a brief overview of each vendor's product, and we'll talk about how they work. Then we'll present our evaluators' feedback about their experiences using these programs. The products are discussed in alphabetic order by program name; no ranking or value should be inferred by the order in which they are addressed.

## **Correct Grammar**

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We used Release 2.0 of Correct Grammar for our PC TAP study. The \$99 package will run on an IBM PC, PC-XT, PC/AT, PS/2, or 100% compatible. Approximately 460K of free RAM is required (380K if you have a 128K EGA or VGA video card; 400K if you use expanded memory), along with 1.2 megabytes of free disk space. DOS release 2.0 or later is required. The program is compatible with WordPerfect, WordStar, Microsoft Word, PC Write, and any other word processor that can create standard ASCII files.

Correct Grammar for the Macintosh requires a hard disk, on which the program's data folder will take up 1.2 megabytes of space. The computer must have at least 1 megabyte of RAM, with at least 580K usable. System Version 4.2 or higher is required. Documents created with these word processors can be checked: Microsoft Word (1, 3, and 4), Microsoft Works, Microsoft Write, QuickLetter, WordPerfect, MacWrite, MacWrite II, WriteNow, Acta & Acta Advantage, and AppleLink. Plain text (ASCII) documents also can be processed.

In addition to providing clear instructions about using the product, the excellent documentation includes discussion of the philosophy and mechanics employed by Correct Grammar in the grammar-checking process. Installation was easy and straightforward on both PCs and Macs. On the PC, special provisions are made for the word processing programs listed in the previous paragraph. For example, the word processor's dictionaries will be checked for unusual words and spellings. Additionally, WordPerfect users can install Correct Grammar in such a way that you can "hot key" from within WordPerfect to check your documents.

Although there are references in the manual to "style," Correct Grammar does not check style in the sense we defined it earlier. In the case of Correct Grammar, the settings of the various rules, rather than a slant toward a particular audience or "document personality," are referred to as *style*. However, among the "readability" rules is a grade level check that can be set by the user.

Using Correct Grammar is easy and straightforward. Upon entering the program, the user is presented with six options:

- 1. Check.** Allows interactive processing of a document, stopping at each "error" the software finds.
- 2. Setup.** To change any of the setup options (dictionary file name, screen colors, keyboard layout, etc.).
- 3. Rules.** Here's where you get an opportunity to review the grammar checking rules, and turn off any you don't want applied to your document.
- 4. WP (Word Processor).** Select this option to indicate that, for this session, a word processor other than the one specified during Correct Grammar installation will be used.

5. **readability only.** When this option is selected, only the readability rules (long paragraphs or sentences, multi-syllable words, grade-level, etc.) are applied. Spelling and grammar are not checked.
6. **Mark up.** This is the "non-interactive," or batch check option. Correct Grammar saves the original document with a .BAK extension, then performs all checks, inserts comments within brackets in the text, and saves the marked-up text under the original file name. The user can then use his or her word processor to review the marked up copy, and make the desired revisions.

When Correct Grammar completes its checks, a summary like the one below is presented on the user's computer screen. The summary also is written to the file CG.SUM.

GRAMMAR.BAK	Correct Grammar Readability Analysis (Also written to file CG.SUM)	
2 paragraphs, average	2.5 sentences each	
5 sentences, average	22.6 words each	
113 words, average	5.4 letters each	
184 syllables per 100 words		
1 passive sentences	20 % of total	
0 long sentences	0 % of total	
0 misspelled words	100 % correct	
0 other errors corrected	100 % correct	
3 sentences hard to read	40 % correct	
Flesch Reading Ease score	28.2	Very difficult
Grade level required	16	
U.S. adults who can understand	5 %	
Flesch-Kincaid grade level	14.9	
Gunning Fog Index	17.4	

### User Feedback

Several of our evaluators commented that Correct Grammar imposes significant limits on the user's ability to move back and forth in the text when performing edits during an interactive session. For example, you can't scroll forward or backward more than two or three paragraphs. Correct Grammar processes the document from beginning to end, presenting small segments in a "window" to the user. Once you've moved beyond the scope of a "window," the software can't back up to that text segment. The only way to access it a second time is to start at the beginning and work down again.

Favorable comments from users were related to the documentation, the help that's available during interactive document checking, and the appropriateness of the advice offered by the software. The table of summary statistics also got high marks. On the negative side, some people felt that execution was slow on a 286 PC. The fact that the software can't be used as a desk accessory displeased our Macintosh evaluator. On a scale of 1 to 5, with 5 being the most favorable score, our evaluators gave both the Macintosh and PC versions of Correct Grammar an overall average score of 4.



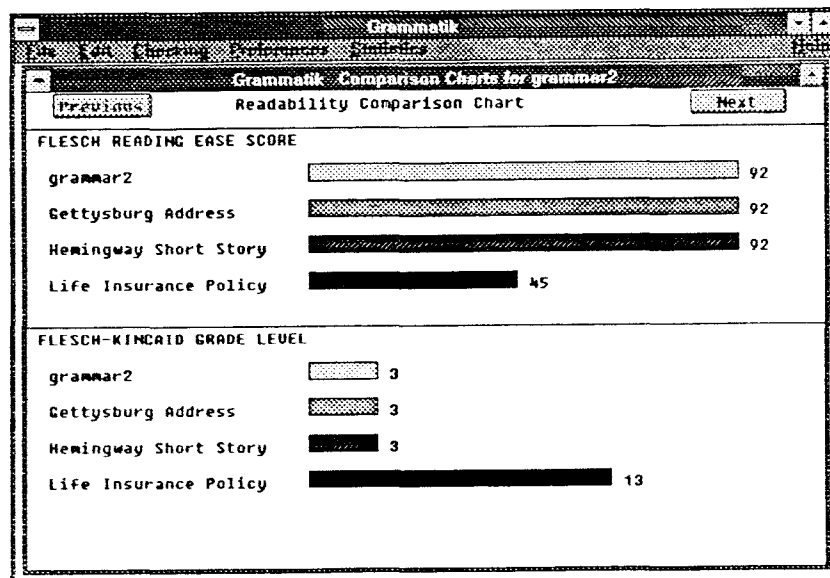
## Grammatik

Grammatik is available in several different versions: *Grammatik IV* (successor to *Grammatik III*), *Grammatik Windows* (for Windows 2.x or 3.0), and *Grammatik Mac* (for the Macintosh). There's even a *Grammatik Government Edition* that takes government writing style into account. Our evaluators used *Grammatik IV* and *Grammatik Mac*; we at PC TAP explored the product with a copy of *Grammatik Windows*. The DOS version is for IBM PCs and PS/2s and compatibles with at least 512K of memory and a hard disk. The Mac version also needs at least 512K. Both retail for \$99. According to the manual, *Grammatik Windows* needs 450K of memory, but with Windows 3.0's memory management capabilities, that's a moot point. On our hard disk, the Grammatik subdirectory occupies just over a megabyte.

The list of word processors supported by Grammatik is most impressive; we counted 35 specific packages, plus ASCII text on the word processor selection list. Grammatik also is compatible with the Ventura Publisher desktop publishing product. No significant installation problems were reported with any of the Grammatik versions, although one evaluator had trouble setting up the option to hot-key to Grammatik from WordPerfect. You can even have it installed and running without consulting the documentation. An excellent tutorial called "tour" is worth your time; not only does it illustrate how Grammatik proofs a document, but it covers all the rule classes as well.

When you use Grammatik, it's very important that you select a style from among the six categories of writing under the "Preferences" menu: general, business, technical, fiction, informal, or custom. The category you select determines which of the rule classes Grammatik will use to analyze your document. The "custom" option allows you to create your own personalized style, which Grammatik will use when checking your writing. The government edition offers a seventh style, "proposal writing," which recognizes a long list of acronyms common to government writing.

After the checking of a document is completed, Grammatik produces a statistical analysis of the document. The program graphs your writing's readability index, which you then can compare with the Gettysburg Address, a Hemingway novel, or an insurance policy. If you have defined a personalized style based on a particular document that you specified, the current writing also can be compared against that "standard." For example, if you're a technical writer and you have written what you consider to be an excellent technical document, you might want to define that document as your standard. The figure below shows the readability comparison chart for our test file "GRAMMAR2" as displayed in Grammatik Windows.



## User Feedback

Grammatik IV prompted varied responses from our evaluators. The documentation and interactive help were favorably rated. The hotkey option in WordPerfect 5.1 was seen an excellent option. One person thought batch processing was preferable to interactive because it's faster and you aren't tied to your computer while Grammatik does its thing. Others were impatient with responding to every "problem" the program encountered. Some prefer interactive mode because they don't want to have to exit to their word processor to see the marked-up copy and make the corrections. We think the length of the document has a lot to do with which mode is best. We found it tedious plodding through long documents in interactive mode, but for short items, like a memo for example, interactive is fine.

On a scale of 1 to 5, with 5 being the most favorable score, Grammatik got about a 3.5 for comprehensiveness and accuracy of grammar checking. Several people reported frustration over the treatment of "who/whom" and "they're/their/there." The software allegedly recommends that the user consider changing to whichever of these alternatives is not in use. For example, one person said it flagged several iterations of "whom" in a document, and recommended changing them to "who." The recommended change was made, and Grammatik was asked to look at the document again. This time it flagged "who," recommending a change to "whom."

We were unable to replicate these problems in *Grammatik Windows*. Although we weren't able to find any references in documentation suggesting that the Windows version was an upgrade, we called Reference Software to investigate that question further. They said the Windows version was not considered an upgrade to *Grammatik IV*, but that some additional rules and other improvements were included in the Windows release. A new release of *Grammatik IV* is planned for the first quarter of calendar 1991. If it's as good as our Windows version, it's sure to meet with excellent reviews. As was the case with *Correct Grammar*, the only serious criticism of the product on the Macintosh was the fact that it isn't available as a desk accessory.

## PC Proof/MacProof

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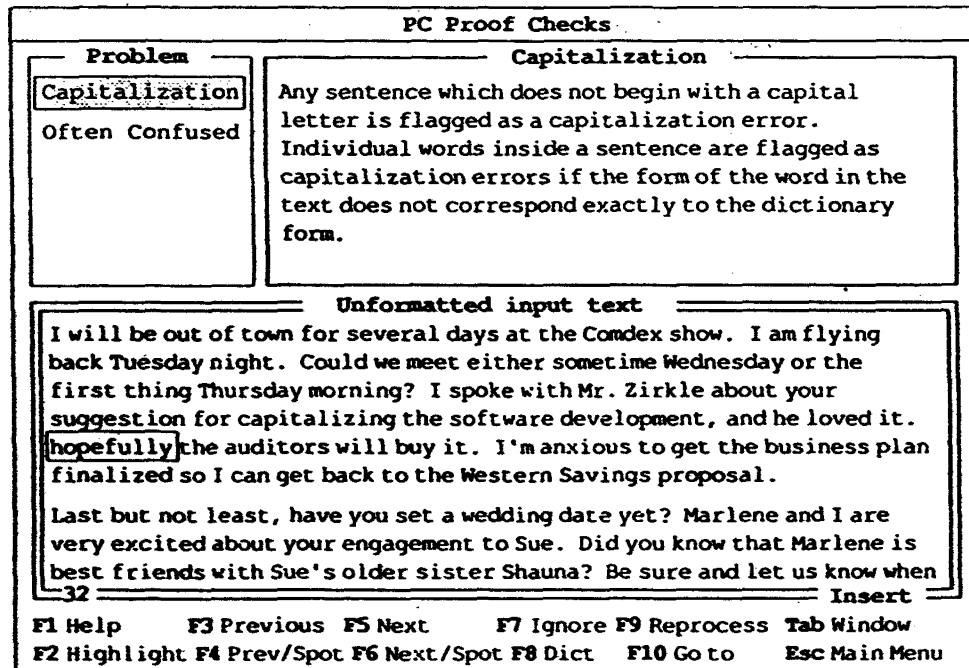
At \$159 for the PC and \$195 for the Mac, these products from Lexpertise Linguistic Software are the most expensive grammar checkers we looked at in this study. The PC version runs on 100% IBM compatible DOS machines of at least XT class, with 640K of RAM and a hard disk. MS DOS or PC DOS version 2.0 or later is required. In addition to ASCII text files, PC Proof is compatible with Microsoft Word 3.0, 4.0, and 5.0, and with WordPerfect 4.2 and 5.0 (although we had no problems running with WordPerfect 5.1).

On the Macintosh, MacProof is a desk accessory! This was quickly pointed out with much enthusiasm by our Mac users. Hardware requirements include a MacSE, MacII, CX or CI, and 1 megabyte of RAM. MacProof is compatible with MacWrite 4.6 and 5.0, MacWrite II, Microsoft Word 4.0, MindWrite 1.0 and 2.0, and PageMaker 3.0, 3.01, and 3.02 (2MB of memory required for PageMaker only). ASCII files also are supported. Unlike the other grammar checkers we evaluated, this family of products was developed first for the Mac, and later for the PC.

This program isn't as powerful in some ways as the others we've discussed. For example, it doesn't support any style checking. Neither does it produce a statistical summary, although there's an "analyze structure" function that shows certain statistics upon request. The total number of words in a paragraph or in the document can be displayed, as can the number of sentences or paragraphs in the document. Averages are available for words/sentence, words/paragraph, and sentences/paragraph.

An excellent user guide is provided, but we found PC Proof easy and intuitive to use with no help at all. You simply start it up and follow the on-screen directions. All that's necessary is to name the file you want to examine, provide the name you want the corrected file to be saved under, and select the "run checks" option from the main menu.

PC Proof checks your document a paragraph at a time. It highlights all the problems in the first paragraph, then waits for you to decide what to do. If you want to know that's wrong, move the cursor to a highlighted word and press F2 (highlight); the problem will be defined in the "problem" window, and an explanation also is presented. The figure below shows an example of PC Proof in action.



As you move through the document interactively, you can edit the text as suggested by the program or ignore its advice and move on. Any changes you elect to make are reflected in a revised version of the original that PC Proof saves under the output file name you specified when you first entered the program. It's as simple as that.

We liked PC Proof and MacProof, and so did our evaluators. The program is well organized, and it has attractive, easy-to-follow screens. Moving through a document interactively doesn't seem as laborious as with some of the other products either. One person pointed out the ability to focus on only one sentence out of an entire document as a great advantage. These programs don't do as many things as their competitors, but they are very good at the functions they do perform.

## RightWriter

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At \$95 list, RightWriter is the least expensive (by a \$4 margin) of the products covered in this report. The PC version will run on any PC, XT, AT, or PS/2 with at least 384K RAM and DOS 2.0 or later. The program supports most popular word processing programs, including any word processor that will produce an ASCII file. Word processor selection is performed easily from a list presented to the user by the software.

RightWriter for the Macintosh will run on any Mac with 512K of memory available, operating system 3.2 or later, and Finder 5.3 or later. Supported word processors include MacWrite 2.2-5.0; MacWrite II 1.0 and 1.1; Microsoft Word 3.0 and 4.0; WordPerfect 1.0.0 and 1.0.4; and WriteNow 1.0, 2.0, and 2.2. ASCII files from any word processor also can be processed.

RightWriter does not have an interactive processing mode. The program is very easy to use; all major functions are clearly listed on the main menu, which is reproduced below.

```

                                RightWriter (R) Version 3.1
                                Copyright 1989 by RightSoft, Inc. Licensed to: pc tap

                                MAIN MENU
                                ANALYZE DOCUMENT
                                REMOVE COMMENTS
                                CHANGE SETTINGS
                                MODIFY DICTIONARY
                                EXIT TO DOS

                                Check a document for proper grammar, writing style, word usage, and
                                punctuation. Get comments, overall ratings, and recommendations.

                                F1 for Help  ↑↓ to Select Option  ← to Execute  ESC to Cancel
```

Selecting "ANALYZE DOCUMENT" yields another screen upon which the user is prompted for the names of the input (where the document to be analyzed is) and output (where the revised text is saved) files. After entering the file names, simply press F10 to turn control over to RightWriter; the user then is returned to the main menu. At this point, the process can be repeated for another document, or the user can exit RightWriter and examine the marked-up file with the word processor.

When RightWriter finishes the analysis of a document, the user is presented with an abbreviated analysis, as shown at the top of the next page. A more detailed analysis is appended to the marked-up document that RightWriter places in the output file specified by the user. The summary created during the analysis of a brief test document is reproduced on the bottom half of page 12.

**RightWriter (R) Version 3.1**  
**Copyright 1989 by RightSoft, Inc. Licensed to: pc tap**

**RIGHTWRITER ANALYSIS**

Analyzing Document: d:\wp51\dave\grammar2.  
 Marked-Up Copy: d:\wp51\dave\grammar2.OUT  
 Word Processor: WordPerfect

Number of Words in Document: 90  
 Number of Unique Words: 59  
 Number of Words Analyzed: 90

Readability Index: 3.00  
 Strength Index: 0.69  
 Descriptive Index: 0.18  
 Jargon Index: 0.00

You may now use your word processor to view, edit  
 or print your document.

Press Any Key to Continue

**<<\*\* SUMMARY \*\*>>**

Overall critique for: d:\wp51\grammar2.  
 Output document name: d:\wp51\grammar2.OUT

**READABILITY INDEX: 3.00**

4th	6th	8th	10th	12th	14th
*					
SIMPLE		GOOD			COMPLEX

Readers need a 3rd grade level of education.

**STRENGTH INDEX: 0.69**

0.0	0.5	1.0
**** **** **** **** **** **** ****		
WEAK		STRONG

The strength of delivery is good, but can be improved.

**DESCRIPTIVE INDEX: 0.18**

0.1	0.5	0.9	1.1
***			
TERSE	NORMAL		WORDY

The use of adjectives and adverbs is normal.

**JARGON INDEX: 0.00**

**SENTENCE STRUCTURE RECOMMENDATIONS:**

- 7. Most sentences begin with pronouns.
- Try using other sentence start conditions.
- 13. Few prepositional phrases are used.

**<< WORDS TO REVIEW >>**

Review this list for negative words (N), jargon (J), colloquial words (C), misused words (M), misspellings (?), or words which your reader may not understand (?).

nobody(N) 1 query(?) 1

**<< END OF WORDS TO REVIEW LIST >>**

**RightWriter Document Summary**

## User Feedback

We received mixed reviews on RightWriter. Not unexpectedly, those who prefer batch processing like RightWriter, while users who like interactive grammar checking are less enthusiastic about this product. Everyone agreed, however, that RightWriter's method of always saving the marked-up copy with a different extension could likely cause disk clutter. To preclude accumulating an endless stream of files with an .OUT extension, the RightWriter user must be very conscientious about cleaning off such files after their usefulness has ended. This problem isn't unique to RightWriter, however. Grammatik and PC Proof create a backup copy of files they process, and Correct Grammar offers the user the opportunity to do so before it saves the revised text over the original contents of a file. Summary files containing statistics and other details also require housekeeping to keep them from eating up disk space.

All our evaluators agreed that RightWriter's documentation was excellent. The product's user friendliness seems to be its strong suit. The screens are well laid out and easy to read, and the options are clearly presented and intuitive. One evaluator commented on the usefulness of the report of summary statistics.

There was some disagreement about the quality of the grammar checking done by RightWriter. One person reported that it missed a number of "obvious errors," while another said this product caught obvious grammatical problems that another grammar checker missed. One evaluator commented that the marked-up document created by RightWriter was hard to read. Another liked the marked-up copy, and pointed out that it was far easier to read the annotated hard copy than to "grind through" an entire document interactively.

As with the other products included in this report, preference for RightWriter seems to be a personal choice. Overall, averaging feedback from users of both the Mac and PC versions, RightWriter gets a grade of 4.5 on the 5-point evaluation scale.

## Summary

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In our introduction to grammar checkers on page 2, we noted that these products aren't cure-alls for untrained or inexperienced writers. The question of whether or not you should invest a hundred dollars or so of your software budget in a grammar checker is an issue everyone must consider individually. The amount of writing one does certainly is a major consideration. If you write only a couple of memos a month for distribution to people within your office, then a grammar checker probably isn't worth the investment in terms of the money to buy one, or in time to run your memos through the program. On the other hand, if you do write extensively and produce documents for external distribution, you might find it worthwhile having a grammar checker in your software repertoire. As one of our reviewers commented, "It's certainly easier as a writer editor to use the grammar checker to confirm your suspicions about *someone else's* writing! But when they argue with you, it's another way to enhance your credibility!"

When one scrutinizes the evaluation feedback we received on the grammar checkers that were the subject of this report, no clear "winner" emerges. All four products have strong points, while none does a flawless job of what they're designed to do: checking that the grammar in written material conforms to generally accepted rules of English usage.

On the other hand, all have the potential to be really useful writing aids for the individual who already has an understanding of basic grammar. You may say "Oh, great . . . if I already know basic grammar, why do I need a grammar checker?" The answer is, we need them for the same reason we need spell checkers: to make sure we don't carelessly *violate* any of the grammatical rules with which we're familiar. These packages are also excellent at helping a writer stay within the parameters of a particular writing style, or to avoid vocabulary or construction that may exceed the reading capabilities of the intended

audience. So the greatest benefit of this type of software may be in its ability to help one avoid common pitfalls and write for best effectiveness, rather than as a grammar tutor.

It's important to note that grammar and style checkers are still an evolving software category. We mentioned on page 9 that Reference Software is preparing to release a *Grammatik* update in the Spring, and a new release of *Correct Grammar* was announced within the past couple of weeks. According to the announcement from Lifetree Software, *Correct Grammar 3.0* will have improved error checking, a style guide that includes eight built-in style categories, an expanded grammar rule set, and a 20% speed increase with a decreased RAM requirement. We've ordered the upgrade, and will include a brief review of it in a future *PC TAP Consumer Report*.

We have collected reviews of grammar checkers from a number of trade publications during 1990. The list, in alphabetic order, includes *Bay Area Computer Currents*, *Computer Reseller News*, *InfoWorld*, *PC Hands On*, *PC Magazine*, and *MIS Week*. In addition, *PC Week* published a grammar checker feature in the September 1989 issue. Most of the articles we've seen report on three packages: *Correct Grammar*, *Grammatik*, and *RightWriter*. Usually the publications did not rank the products, but several did. *PC Week* tested the "big three" and scored them like this on a 10-point scale: *Grammatik III* (8.8 points), *Correct Grammar 1.0* (8.3 points), and *RightWriter 3.1* (6.6 points). (Note that these were not the versions of *Grammatik* and *Correct Grammar* that we used in our study.) *MIS Week* evaluated *Grammatik* (3½ stars out of a possible 5) and *RightWriter* (3 stars). On the 5-point scale used by *PC Hands On*, the overall ratings were *Grammatik*, 3; both *Correct Grammar* and *RightWriter*, 2.

Feedback from participants in our PC TAP study indicates that each of the four products reviewed in this report has its strong points, and each has characteristics or limitations that some users probably will feel they can't live with. Fortunately, in today's marketplace one usually can find a source that will allow you to try a product before you buy, or that will sell software on a 30-day money-back satisfaction guarantee. Grammar and style checkers can be a great help to the serious student of writing. We recommend you try one—or all of them—and select the one that best suits your personal needs and preferences.

## **Study Contributors**

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PC TAP appreciates the efforts of the following people in testing software and contributing to the content of this report.

Vicki Dougherty  
National Enforcement Investigations Center  
Denver Federal Center  
Denver, CO

Susan Frank  
Public Affairs Office  
EPA Region I  
Boston, MA

Sophia Jeffries  
Information Consultant, RIC I  
NDPD Information Centers Branch  
Research Triangle Park, NC

Barry Parks  
ADP Coordinator, LVF  
Office of Radiation Programs  
Las Vegas, NV

Dr. Nancy B. Pate  
Pollutant Assessment Branch  
Office of Air Quality Planning and Standards  
Research Triangle Park, NC

Glenn Piper  
Technical Support Specialist  
American Coastal Industries  
Research Triangle Park, NC

Pam Worley  
Technical Writer/Editor  
NDPD Publications Section  
Research Triangle Park, NC

Dr. Robert Zucker  
NSI Technology Service Corporation  
EPA Environmental Research Center  
Research Triangle Park, NC



## Open Forum

*Open Forum* provides an opportunity for users to share with others their own innovations, or the results of their own technology assessments. The PC Technology Assessment Program neither verifies nor endorses the contents of *Open Forum* items, but we are pleased to offer them as a service to users.

### Low-Cost Printer Options for the Macintosh

This printer study was submitted by Dave Levesque, of the Washington Information Center staff at EPA Headquarters. Dave is an IC consultant who specializes in Macintosh support, and in helping users with graphics applications. He may be contacted at FTS 475-7418. PC TAP appreciates Dave's contribution.

The objective of our study was to find a printer for the Macintosh capable of 300 dots per inch (dpi) output for under \$1000. Three Hewlett Packard printers—the DeskJet Plus, the LaserJet IIP, and the DeskWriter—are priced under the \$1,000 limit. The DeskJet Plus and the DeskWriter employ inkjet technology, while the LaserJet is a four-page-per-minute laser printer. We decided to evaluate these three devices for use with the Macintosh.

The DeskWriter has an AppleTalk interface that works with any Macintosh computer. Both the DeskJet plus and the LaserJet have a parallel interface that's intended for use with an IBM or compatible computer. To connect the parallel printers to the Macintosh, we used a device called the *Grappler*. The Grappler is available for about \$60 from Orange Micro Systems. There are two models, the LX for parallel printers and LS for serial printers.

#### Working with the Grappler

The Grappler is a cable with a standard Macintosh 8-pin DIN connector on one end, and a small box and 36-pin centronics connector on the other end. The Mac 8-pin connector can be plugged into either the modem or printer port on the back of the computer. The small box on the centronics side of the cable has four dip switches that must be set to match the printer in use. A label on the box shows switch settings for most of the popular printers.

The Grappler comes with software, including an installer, print drivers for a variety of PC printers, the Apple ImageWriter LQ printer driver, and three character fonts. Virus detection software should be turned off before installing the Grappler software. The installer prompts the user for the type of PC printer in use, and automatically installs all drivers and fonts. Depending on the computer system configuration, two installation options are available. "Complete" installation is recommended for systems with a hard drive and sufficient RAM memory (1 Meg of RAM may not be enough if there are many fonts and/or inits running on the system). "Minimum" installation minimizes the number of Grappler software drivers and fonts installed; we found it unsatisfactory in operation, and we used the "complete" installation for all our printer tests. After the installation is complete the ImageWriter LQ driver must be selected in the Chooser, then the computer must be re-booted. During normal operations, the Grappler can be managed through the Control Panel. It can be turned on and off or configured, and options can be selected for print spooling, font check, PC printer selection, precision font scaling and kerning, and printer RAM.

When a print command is issued with the Grappler active, a dialog box pops up offering three print quality choices: Draft, Faster, and Best. "Draft" mode will not handle graphics, and it offers no advantages for printing from the Macintosh. With all our test applications, the bit-mapped images produced by "faster" mode for both text and graphics were noticeably ragged. However, "faster" mode usually produced a page of output in two minutes or less (about half the time required for "best" print mode). The "best" mode caused the most problems with the Macintosh. The print quality was poor when fonts other than the three supplied from Orange Micro were selected, and in some applications the file would refuse to print or the Mac system would lock up. Print quality was best when one of the three Grappler fonts was used.

Generally the Grappler worked as advertised, and it appears to be an excellent low-cost solution for printing from a Mac to most PC parallel printers. Several shortcomings are worth mentioning, however. We had a problem placing the computer and printer on a desktop within the constraints of the Grappler's four-foot cable. Additionally, PC Printers connected to a Macintosh via the Grappler can't be networked; we had to disable TOPS (Mac network software) to prevent system conflicts. It is also important to note that the Grappler can not print PostScript files directly. However, two images we sent from postscript programs were converted and printed on the PC printers. The manual for the Grappler was brief and easy to follow, but incomplete in several areas. We found it necessary to call Orange Micro in California to get the DeskJet up and running.

### **Printer Test Results**

The HP LaserJet IIP personal laser printer, priced at just under \$1,000, provided the poorest results of the printers tested with the Macintosh. The amount of desk space required for the LaserJet IIP also created some problems, especially with the short Grappler cable. Additionally, paper handling was poor and clumsy. In its defense, the IIP was easy to set up, and it can be upgraded with more memory, a PostScript font cartridge, and an AppleTalk interface to make it a true Macintosh PostScript-compatible laser printer. As tested, the IIP had only 512K of RAM and required the Grappler interface cable and software. Insufficient printer RAM caused printer errors, and sometimes the Mac system bombed when printing large files, especially in "best" print mode. Printing to the IIP was often frustrating when after five or ten minutes the printer displayed an error message while the computer continued to send information. Attempting to cancel the print operation by pressing "Command+Period" on the Mac often caused the system to lock up.

The HP DeskJet Plus, the least expensive printer in our test group at around \$635, also required the Grappler interface cable. Setup was easy, but a phone call to Orange Micro was required to obtain the proper dip switch settings for the printer. The DeskJet has two sets of dip switches located below the paper tray. Normally they are all set in the down position, but with the Grappler switch #5 in both banks "A" and "B" must be in the up position. The DeskJet produced the poorest print quality, and it was the slowest of the printers tested. Although most of the test pages printed in under four minutes in "best" mode, complex graphics took as long as ten minutes. Unless one of the three Grappler fonts was used, text was ragged even in "best" mode. Graphics with large dark areas came out of the printer wet, and they smeared if touched.

With its AppleTalk interface, HP's DeskWriter, which was designed for the Macintosh, turned in the best overall results. At just under \$800, the DeskWriter's price includes four printer fonts. Total setup time, including software and font installation, was less than 15 minutes. The DeskWriter can be used with a single Mac or networked and shared by several computers. Print times even for complicated graphics was faster than any of the other printers tested. Prints were clear, and text looked good for all applications tested in "best" mode. "Faster" print mode produced nice quality prints in most graphic programs, but fonts appeared a little ragged. Cabling and placement of the DeskWriter is easy due to the AppleTalk interface. Without a doubt, this printer is the stand-out winner among those tested.

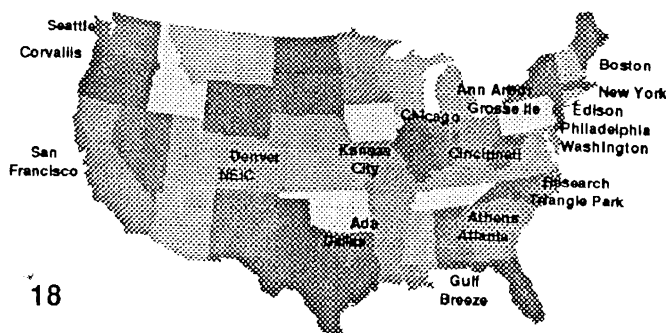
## *This & That*

In *This & That* we bring you the latest developments in areas we have reported on before, tell you about announcements of interesting new products, or present other timely items of interest.

### **PC Technology Assessment Program External Resource Network Update**

The PC TAP External Resource Network (ERN) is made up of people in the Regions and Labs who are interested in technology assessment, and who are willing to serve as local contacts for PC TAP at their respective sites. Although we included some changes in ERN personnel in our last *Consumer Report*, we want to provide a more recent update. Vicki Booth, our former Region X representative, has moved on. Also, three more organizations have asked to join the ERN: the Environmental Criteria and Assessment Office (ECAO) in Research Triangle Park, and the laboratories in Gulf Breeze, Florida, and Grosse Ile, Michigan. Here are the new representatives at these four locations:

<u>Site</u>	<u>Representative</u>
Region X	Kent Hargrave EPA Region X 1200 Sixth Avenue Seattle, WA 98101
Grosse Ile	Robert Buckley USEPA—Emergency Response 9311 Groh Road Grosse Ile, MI 48138-1697
Gulf Breeze	Russ Ryder EPA Environmental Research Laboratory Sabine Island Gulf Breeze, FL 32561
RTP	Becky Mangum Environmental Criteria and Assessment Office EPA Environmental Research Center, MD-52 Research Triangle Park, NC 27711



## How to Submit Items for Open Forum

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In keeping with the PC Technology Assessment Program's objective to have the user community actively involved in TAP projects, users are encouraged to submit items for inclusion in future *PC TAP Consumer Reports*. If you have independently investigated the capabilities of a software product or a hardware component, we would like to hear from you. We'd also like you to share with others your solutions to any problems you may have encountered with a particular application or device, and about tricks, shortcuts, or unique applications you have devised. Although we can't promise to publish every contribution, we will evaluate them all in terms of their potential interest to our readers and their conformance to the spirit and intent of PC TAP.

There are no additional rules for *Open Forum* contributions, but here are some guidelines:

1. Contributions must be typed. Our first preference is that they be submitted on a floppy disk in WordPerfect format. If that isn't possible, the next best method is to EMAIL the text to PCTAP, EPA30647. The least preferable method, but still acceptable, is to mail a typewritten article to TAP at the address on the cover of this publication.
2. The length of your contribution will be determined somewhat by its complexity. However, keep in mind that we're primarily interested in the purpose of your study project and how pleased you were with the results, not in the nitty-gritty details of how you did it. We will publish your name, address, and phone number for those who want more details. Two to three pages is probably a reasonable maximum length. On the other hand, a paragraph containing a nugget that may be useful to others would be equally welcome.
3. All material submitted by users is subject to our editing, and you will not be given an opportunity to review the final manuscript before publication. Sorry, you'll just have to trust us. If we have questions or don't understand any part of your text, we'll contact you for clarification.

We hope you enjoy *PC TAP Consumer Reports*, and we look forward to hearing from individuals who have insights or discoveries to share with others. Thanks for your interest and your participation in the PC Technology Assessment Program.