

SOFTWARE REVIEWS

THE CITE CHECKER

Published by Legal Software, Inc., Palo Alto, 1985

\$99.00; *and*

CITERITE: THE BLUEBOOK EXPERT

Published by JURISoft, Inc., Cambridge 1985

\$395.00.

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As any attorney, professor, or law student knows from experience, checking citations is one of the least pleasant tasks involved in preparing legal materials. The work is time-consuming, monotonous, and almost inevitably imperfect. Computers may provide a welcome answer. After all, computers are relatively quick, excel at hideously boring tasks, and are perfect at implementing a designed set of instructions. Because many law offices have become computerized in recent years, it was inevitable that some industrious lawyer familiar with computer programming would develop a program to check citations in legal documents.

Two such programs were released in early 1986: THE CITE CHECKER, by Legal Software, Inc., and CITERITE: THE BLUEBOOK EXPERT, by JURISoft, Inc. Both programs run on the IBM PC and compatible computers and claim to locate certain citation errors in legal documents based on the fourteenth edition of A UNIFORM SYSTEM OF CITATION,¹ popularly known as the "BLUEBOOK." Both programs *do* find errors in legal briefs and articles. By using either program on the first draft, it is possible to quickly locate and correct many simple citation errors and typographical mistakes. By using one of the programs on a final draft, it is possible to catch embarrassing errors that slipped past human cite-checkers at two in the morning. These abilities should save any law firm more money than the programs cost.

Unfortunately, the programs can only be utilized as secondary tools in checking for citation mistakes. Both are limited in scope and thus do

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1. THE HARVARD LAW REVIEW ASS'N, A UNIFORM SYSTEM OF CITATION (14th ed. 1986) [hereinafter cited as the "BLUEBOOK"].

not check for many types of common citation errors. Any law office or journal that relied entirely on either program to check citations would probably be extremely embarrassed after the first document left the office.²

This review will first describe each program and its performance capabilities. It will then critically evaluate the usefulness of THE CITE CHECKER and CITERITE to legal practitioners, and will compare the pros and cons of each of the two programs. Finally, the review will suggest some features and capabilities of an "ideal" cite-checking program and will analyze THE CITE CHECKER and CITERITE in light of this "ideal."

I. DESCRIPTION OF THE TWO BLUEBOOKING PROGRAMS

A. THE CITE CHECKER

THE CITE CHECKER reads plain ASCII³ text files rather than formatted word processing documents. THE CITE CHECKER reports citation errors to the screen and also stores the errors in a disk file. As it reads through a file, the program shows citations in the top third of the screen, errors in the bottom third, and status information in the middle. The user can select whether to have THE CITE CHECKER pause after each citation in a document is checked so that he or she can review the information generated by the program on the screen, or the user can simply have the program automatically check all the citations in a document and review the program's disk file afterwards in order to see where citation mistakes in the document were made. It is also possible to type citations directly into the cite-checking program in order to obtain an instantaneous response. When THE CITE CHECKER finds errors, users must either jot them down on a printed copy of the document, or print out the error message file. Either way, the user must reload a word processing program in order to edit the original document.

THE CITE CHECKER only checks case citations, essentially implementing many of the subsections of BLUEBOOK Rule 10. Statutes, services, books, and law review articles are completely ignored by the cite-

2. THE HARVARD LAW REVIEW ASS'N has issued Certificates of Assurance to both THE CITE CHECKER and CITERITE indicating that the software programs correctly implement BLUEBOOK rules. The tests performed by THE HARVARD LAW REVIEW ASS'N involved running a single test file through each program and apparently did not examine the computer-related aspects of the programs in detail. Telephone interview with Paul Engelmayer of the HARVARD LAW REVIEW (Jan. 9, 1987).

3. ASCII stands for "American Standard Code for Information Interchange," which is a standard character set for computers approved by the American National Standards Institute (ANSI).

checking program, as are BLUEBOOK Rule 4 (short citation forms) and Rule 5 (quotations). Because the ASCII standard does not allow for underlining or italicization, THE CITE CHECKER does not check these aspects of citations. The program also does not check capitalization (BLUEBOOK Rule 8) in citations, although ASCII text files maintain this information. THE CITE CHECKER does create a separate file containing a table of cases, however.

B. CITERITE

Although, like THE CITE CHECKER, CITERITE can cite-check an entire document file contained on a disk, it can also read text files created directly by nine popular word processing programs.⁴ CITERITE has a memory-resident mode so that it can check on-screen citations at any time from within any of these word processing programs. Thus, the user can load CITERITE and any word processing program and can check and correct citations on the computer screen as he or she edits a document. The user must position the cursor over each citation to be checked and then must invoke CITERITE; the program cannot scan an entire screen at a time or detect citation errors as they are typed into a word processor. Since CITERITE knows about the formats of word processing files, it can also check for proper underlining and italicization. Like THE CITE CHECKER, CITERITE has an "immediate" mode which allows citations to be typed directly into the cite-checking program and immediately checked for accuracy.

Unlike THE CITE CHECKER, CITERITE requires that every citation in a file be preceded by a special control character. While the backslash symbol ("\"") is normally used, any other character can be substituted. If the symbol is not placed before a particular citation, CITERITE will not check the citation. Of course, this special character must be removed before a document file is printed in final form.

CITERITE has a broader scope than THE CITE CHECKER. Besides case citations, it checks citations to statutes (BLUEBOOK Rule 12), services (Rule 18), constitutions (Rule 11), books (Rule 15), most law reviews (Rule 16), and some legislative, administrative, and executive materials (Rules 13 and 14). It does not handle newspapers or international citations. CITERITE also enables a user to add new reporters, treatises, and services to its dictionary. Thus, if citations are made frequently to a local or regional reporter, that citation form can be added to CITERITE. CITERITE does not create a table of cases or statutes.

4. CITERITE claims to know about the file and display formats used by WORDSTAR, WORDSTAR 2000, VOLKSWRITER, WORDPERFECT, XYWRITE (II+ and III), PC-WRITE, MULTIMATE, MICROSOFT WORD (2.0 and 3.0), and DISPLAYWRITE III.

II. AN EVALUATION AND COMPARISON OF THE TWO PROGRAMS

It is important to note at the outset that neither of these programs offer complete cite-checking capabilities. Both programs merely check legal citations for correct form according to the BLUEBOOK; they do not check the content or context of citations. Human labor is still needed to determine whether the citation and surrounding text make any sense. Furthermore, neither cite-checking program is capable of applying every BLUEBOOK rule, and neither program makes the actual corrections as it finds errors.

A. THE CITE CHECKER

THE CITE CHECKER is easy to operate, and thus most users will not need to spend more than a few minutes with its manual. In a test performed by the *High Technology Law Journal*, THE CITE CHECKER found more than half of the genuine errors in case citations, although it issued incorrect error messages for more than half of the correct case citations. Because it is limited to checking case citations, it misses far more than half of the BLUEBOOK errors in other citations. While THE CITE CHECKER detects most of the case citation mistakes in a typical memorandum or brief, it is imperative that every lawyer or student still spend time reviewing the citations in the documents themselves. THE CITE CHECKER could do far more harm than good by lulling the user into a false sense of security that a legal document contains only those citation errors which the software program locates and flags.

THE CITE CHECKER has a number of other problems, however. First, the cite-checking program often does not seem very "smart." THE CITE CHECKER occasionally created errors on its own. It consistently replaces the last character of every line with a space character, and then it complains about an imaginary extra space every time a citation is split across a line boundary, which comprised about half of all citations in the legal documents tested. At one point, THE CITE CHECKER also dropped the first character of a party name, turning "Synercom" into "ynercom," and it did not even notice that the resulting case name was not capitalized.

This error occurred in other files and cases as well. The program also has some difficulty determining exactly what is wrong with incorrect citations. While THE CITE CHECKER knew that a citation to "F. Supp"

was wrong, it could not determine why the citation was in error⁵ and as a result failed to check the rest of the two-line citation.

Second, the program seems to be quite awkward in many respects. Each time THE CITE CHECKER is loaded, the user must wait while a logo is drawn and erased, and then must answer a list of option questions, such as whether or not the document should be checked for parallel pinpoint citations. Since these options will not be changed very often, there is simply no reason to ask them every time the program is loaded. Moreover, after a file is examined, THE CITE CHECKER terminates rather than allowing another file to be checked. Thus, to run the program on multiple files, THE CITE CHECKER must be reloaded repeatedly. Since THE CITE CHECKER erases its error message file each time it is loaded, that file must be renamed or printed before the next document is tested. Since it takes THE CITE CHECKER a long time to load in the first place, it should give users the option of checking more than one file at a time.

Another awkward aspect of THE CITE CHECKER is that it cannot check multiple files, so that it cannot examine a group of documents while its user is at lunch. Each file must be loaded separately. Also, unlike CITERRITE, THE CITE CHECKER does not have a memory-resident mode and thus cannot check citations from within a word processing program. The user must reload a word processing program in order to correct any errors THE CITE CHECKER finds in the citations of a subject document.

Third, THE CITE CHECKER has some basic programming problems which need to be addressed by its authors. THE CITE CHECKER routinely failed while checking large files, delivering cryptic error messages when it did so.⁶ Generally, THE CITE CHECKER "crashed" whenever it examined a file with more than about thirty citations, although it was not clear whether the number of citations or the length of the file (ten to fifteen pages) created the problem.

B. CITERRITE

CITERRITE is also easy to use, and is much less awkward in some respects than THE CITE CHECKER. Both cite-checking programs can check a document file and can also check citations typed into a computer

5. The correct citation form is "F. Supp." THE CITE CHECKER thought the citation was to a Federal Reporter (first) publication.

6. The error messages are not coming from THE CITE CHECKER but instead are being generated by Turbo Pascal, the programming language in which THE CITE CHECKER is written. This conclusion was deduced from the fact that the program file includes a hidden copyright message from Borland International, which publishes Turbo Pascal, and because the error messages are identical to those generated by other Turbo Pascal programs.

when the programs are in use. However, CITERITE also has a memory-resident mode that can check on-screen citations at any time from within a word processing program. As noted earlier, CITERITE claims to know about the file formats used by nine major word processing packages.⁷ Like THE CITE CHECKER, CITERITE also echoes all its error messages to a disk file, but the memory-resident review mode eliminates any real need to utilize this feature.

CITERITE has a number of other advantages over THE CITE CHECKER. As noted earlier, CITERITE checks a much wider range of citations than THE CITE CHECKER, such as statutes, services, constitutions, books, law reviews, and some legislative, administrative, and executive materials. In addition, users who regularly cite to reporters, treatises, or services can add those works to CITERITE's dictionary. THE CITE CHECKER does not have a similar capability. Also, CITERITE, unlike THE CITE CHECKER, recognizes inaccurate punctuation in a citation. For example, THE CITE CHECKER became quite confused at citations to "123 P 456" or "123 Cal 456," claiming that it could find no jurisdictional clue, and thus stopped checking for other possible errors in those citations. In contrast, CITERITE recognized that only a period was missing and continued checking for additional citation errors.

Although CITERITE caught many more errors than THE CITE CHECKER, it still missed a few. For example, CITERITE had trouble with correct citations to "Cal. App. 2d Supp.," apparently considering them to be correct citations to "Cal. App. 2d," which is, of course, a different reporter series entirely.⁸ Neither CITERITE nor THE CITE CHECKER checks dates completely, but both check to see that the case reporter was at least being published during the year cited.⁹

7. See *supra* note 3. It remains to be seen whether this claim is entirely true. While CITERITE works with disk files created with Quicksoft's PC-WRITE, it did not recognize underlining in the files; every citation was incorrectly reported as not underlined. CITERITE did recognize underlining when the PC-WRITE citation was on-screen, however. CITERITE also recognized underlining in the WORDSTAR 2000 and MICROSOFT WORD files which were tested.

8. See BLUEBOOK at 139. A JURISoft programmer was concerned when this discovery was reported during a technical support call. Apparently, it was merely an oversight which should be repaired in all copies of the program delivered after our call. One advantage of CITERITE is that it offers technical support assistance by telephone. THE CITE CHECKER does not offer a similar service.

9. A citation to "Aa v. Bb, 123 U.S. 456 (1785)" was rejected by CITERITE with the following error message: "[f]ederal Supreme Court cases in 1785 are not found in any reporter in our dictionary; perhaps this reporter did not exist in 1785. See rule 10.4 and the tables in Part H." THE CITE CHECKER provided a more cryptic error message: "[n]o year found in last part of citation ending with '. 456 (1785)'. See Rule 10.5." Apparently, THE CITE CHECKER ignores dates before 1789. However, in response to an 1845 citation to "Cal.," THE CITE CHECKER recognized that the "[d]ate '1845' is out of range for this jurisdiction" and instructed the user to "[s]ee Table G" in the manual.

Both cite-checking programs also knew that a citation to "123 Cal. App. 2d 345

Unfortunately, CITERITE has one requirement which makes it very inefficient. Every citation in a file must be preceded by a special control character, such as a backslash symbol. If the special character is not inserted before a particular citation, CITERITE simply ignores that citation. Also, if the special character is inserted before the first of a string of citations separated by commas or semicolons, CITERITE stops its search after examining only the first citation. Many errors may be missed simply because a lawyer or typist neglects to insert the special character before every citation. Furthermore, this character must be stripped out of the file before its final printing. The need for a special citation flag would be slightly less troublesome if CITERITE included a utility program to remove the special characters from a file before a document is printed. Because CITERITE ignores citations that are not flagged, THE CITE CHECKER is a better program for checking case citations in final drafts of documents.

CITERITE is also awkward in another respect. Whether or not it is in the memory-resident mode, CITERITE utilizes only half of the screen. In effect, there are only nine lines of text, and CITERITE usually double-spaces so that only five or six lines are visible. Because less information is displayed at a given time, it takes the user longer to locate and correct flagged citations than if the entire computer screen were available. CITERITE also cannot check multiple files at one time. As with THE CITE CHECKER, each document file must be loaded separately.

III. AN "IDEAL" CITECHECKING PROGRAM

An ideal cite-checking program would probably correct errors as it detects them, a task which neither CITERITE nor THE CITE CHECKER can presently perform. Both programs require that a human user intervene to correct mistakes. An ideal cite-checking program would at least allow the user to correct each citation as errors are noticed, and would then re-check the new version of the citation before continuing. Although CITERITE's memory-resident mode allows any citation to be explicitly checked from within a word processing program, the user must ask the program to review each citation separately by pointing the cursor at every cite. CITERITE thus takes up the user's valuable time reviewing citations with no mistakes. Even the ability to check all the citations on a given screen would be a major improvement.¹⁰ Alternatively, a cite-

(1980)" was erroneous. The correct citation should be "123 Cal. App. 2d 345 (1954)."'

10. Since there are several commercial programs that perform similar tasks, such as checking the spelling of words on an entire screen or in a file, it should not be difficult to enable CITERITE to perform in such a manner.

It is also not clear why THE CITE CHECKER does not also have a memory-resident mode since there is literally no cost and very little time or effort required to make a Tur-

checking program might have an option to insert an error message or special character into the document file next to each incorrect citation so that locating and correcting citation errors would be much quicker.

The ideal cite-checking program would probably be an integral part of a word processing program. If cite-checking were included in such a program, the program could automatically require the use of a full citation when it first appears, and then could automatically insert short forms of the citation thereafter. If a new citation to a case were inserted before the previous full citation, the "ideal" program would automatically insert the full citation into its new place and reduce the next instance of the citation to a short form. The ideal program would also be able to check both the text of a document and a corresponding footnote simultaneously. Indeed, users of CITERITE and THE CITE CHECKER will be disheartened to discover that, since both programs only check complete citations, they currently ignore any instance in which a case name is included in the text and the matching citation is in a footnote. A well designed program could recognize cases already mentioned in a document and could insert the corresponding citation of the case, prompting for pinpoint page numbers.

The ideal program would also cross-check to see that multiple citations to a particular case are consistent throughout a legal document, would check short citation forms such as "*Id.* at 479" or "345 P.2d at 876," and would rearrange "*supra*" or "*infra*" terms when changes in a document were made. Neither CITERITE nor THE CITE CHECKER performs any of these functions. Also, neither program checks for proper handling of quoted materials. This is understandable, since both programs essentially ignore line spacing and indentation. However, the ideal program would automatically indent quotations of fifty words or more, and would merge shorter quotations back into the text.¹¹

While CITERITE allows a user to rename and add reporters, law journals, and services to its dictionary, an ideal cite-checking program could be altered to conform to a particular law firm's internal citation style. Further, the ideal cite-checking program would create tables of cases and statutes as they were input into the computer. Although THE CITE CHECKER already automatically creates a crude table of case citations for every file it checks, it makes no effort to recognize that two citations are to the same case.¹² The ideal cite-checking program would

bo Pascal program memory-resident. Complete source code for that purpose is available in the public domain through many user groups and electronic bulletin boards.

11. See BLUEBOOK Rule 5.1.

12. "A v. B, 123 U.S. 456" and "A v. B, 123 U.S. 456, 460" are listed as separate citations in THE CITE CHECKER's table of cases.

also have an important capability not found in CITERITE or THE CITE CHECKER: it would flag certain key words and phrases that threaten to haunt every legal writer. Such popular phrases include "cite to authority," "find a case," "check Lexis," and "someone must have said this."

The future promises a program that will automatically get correct citations for cases through an online database service like AUTOCITE, although it is not likely that such an ideal program will be designed in the next few years. A program that would look up a case on a database service, cite to it correctly, Shepardize it and provide a warning message if the case has been overruled or criticized in a particular jurisdiction would be any legal writer's dream. Somewhat similar capabilities, integrating data on a CD-ROM (compact disk read-only memory), are available for specialized financial databases, and both West Publishing Company (WESTLAW) and Mead Data Central (LEXIS) are working on CD-ROM legal products. If a combined word processing/cite-checking program could interact with an optical disk and online database automatically, it would probably find a huge customer base.

Finally, if a program could perform complete BLUEBOOK cite-checking, which is doubtful in the very near future, the next hurdle to overcome would be to design a program which would style-check a legal document based on the rules of a respected style manual,¹³ with the ability to alter the style rules to match a particular law firm's or publication's style requirements.

CONCLUSION

The bottom line is that while both THE CITE CHECKER and CITERITE can save a user time and money and can increase his or her cite-checking abilities, no user should rely solely on either program to ensure that documents are properly cite-checked. Neither program is worth its price if the end user does not recognize that the programs cannot be trusted to guarantee perfection.

CITERITE clearly checks for more types of citations and finds more citation errors than THE CITE CHECKER. The fact that CITERITE can be memory-resident also makes it easier to use than THE CITE CHECKER. On the other hand, THE CITE CHECKER can check any ASCII document, so writers need not remember to insert a special character before each citation. Despite its limited scope, THE CITE CHECKER is thus better for checking case citations in final draft documents.

13. E.g. THE CHICAGO STYLE MANUAL (13th rev. ed. 1982); U.S. GOVERNMENT PRINTING OFFICE STYLE MANUAL (1984).

Given the usual time pressures involved in completing a legal document, most law firms and law reviews will probably place too much reliance on these cite-checking programs. If a law firm or law review purchasing either THE CITE CHECKER or CITERITE does not already do careful cite-checking, its documents will be improved by the use of either program. If a law firm or law review already carefully checks citations and continues to carefully examine their citations even after the programs have performed their "magic," the programs will probably save their purchasers some time cite-checking. However, if a careful law firm or review significantly reduces the amount of human attention given to the cite-checking task when using either CITERITE or THE CITE CHECKER, the result will be more, not fewer, citation errors.¹⁴

14. Other reviews of these two software programs include: Boyle, *The Cite Checker*, THE LAWYER'S PC, Sept. 16, 1986, at 6; Moses, *Checking the Rules with CiteRite*, THE LAWYER'S PC, July 1, 1986, at 6; *New Software Program Relieves Tedium of Citechecking*, ATTORNEY'S COMPUTER REPORT, Oct., 1986, at 1 (review of CITERITE).