Ovid Online

by Péter Jacsó

Ovid Technologies is the new name of an old company, CD Plus. CD Plus Technologies made a name for itself a few years ago by publishing the most sophisticated version of MEDLINE on CD-ROM.

In the spring of 1994, CD Plus bought the online services segment of BRS when it went up for sale. By the end of that summer, it offered an emulated version of BRS Search and BRS Colleague software under the names CDP Online and CDP Colleague, plus its own Ovid software in full-screen character mode (which became available in April 1995).

In May 1995, the company changed its name to Ovid Technologies to reflect the fact that the flagship of its CD-ROM and online business is the Ovid software. Ovid databases and software are available in both character-based (DOS, UNIX) and graphical (Windows and soon Mac) interface formats for CD-ROM users, as well as CD-ROM networks and magnetic storage networks on Novell and UNIX platforms.

Online users have been limited to only character-based interfaces, but by the time this article is published an online graphical interface will be available, known as Ovid Client. Ovid Client uses the Z39.50 protocol that allows a user to connect to and search any database servers that comply with this protocol. (The online public access catalog of AT&T and Drew University are available free of charge through Ovid Online to illustrate this capability.)

Ovid Technologies provided the opportunity for me to test the alpha and beta versions of Ovid client software in the summer of 1995. This article is about the client version of the online Ovid software and database collection.

The pros and cons of the emulated versions of BRS Online, BRS Colleague, and the character-based Ovid software were expertly discussed in last year's September *ONLINE* [1,2] and the March first *Library Journal* [3]. Ovid Technologies also prepared an informative flyer that compares the original and the emulated versions of the BRS software, and the character-based Ovid software. It clearly and sincerely reports which features have been fully retained, modified, or omitted. Only one important group of features was not retained and is not mentioned in any of the cited documents—the cross database searching commands that were available in BRS. I sorely miss this feature when using the superb database collection offered by Ovid Online.

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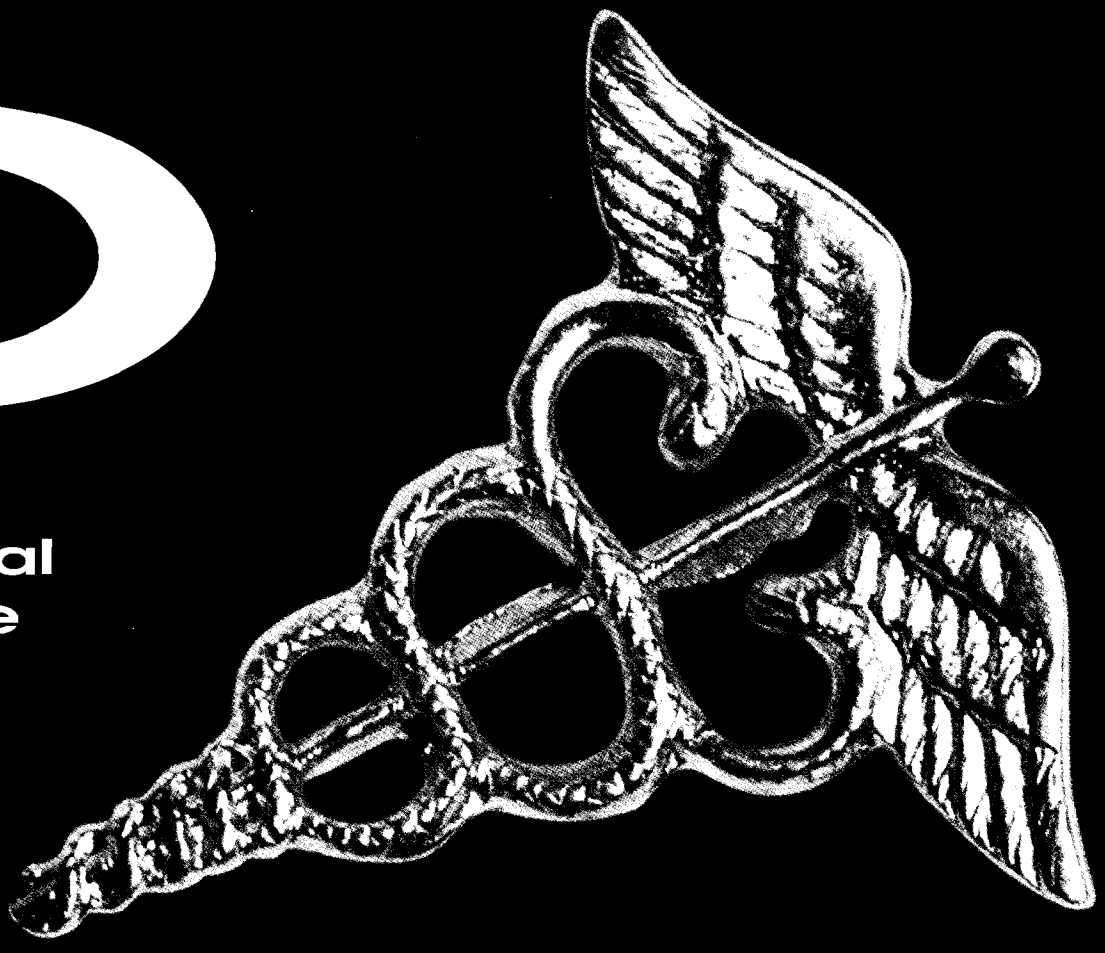
DATABASE CHOICES

Currently, about 80 databases (depending on how you count the multisegment ones) are accessible through the graphical Ovid client software. In addition to the major medical databases (MEDLINE and its topical subsets, EMBASE, CINAHL, PDQ, Health Periodical Index), there are many databases in biology (BIOSIS, BioBusiness, BioethicsLine), chemistry (CA Search, CHIROLARS), and pharmacology (PharmaContacts, Pharmaprojects, Pharmaceutical New Index).

The Comprehensive Core Medical Library (CCML) database offers the full

D Puts on a Graphical (Inter)Face



text of top cited medical journals and yearbooks hot-linked from many of the abstracting databases. There is even a directory database of medical conferences (MediConf). Though some of the databases carried by BRS were dropped (Business Dateline, Disclosure), Ovid offers a well-rounded choice that is not only for bioscientists.

Ovid Online also features nine databases of the Wilson family, and nine databases of the Current Contents series. Additionally, most of the nonbiomedical best-selling databases (ERIC, Dissertation Abstracts, INSPEC, COMPENDEX, ABI/Inform, PsycINFO, Current Contents, and sociofile) are also available, often with unique features (such as the ABI/Inform thesaurus, or the PsycLIT permuterm index).

Some of the databases, as in other online services, are split by time periods to decrease search time. This, and the complementary nature of many of the databases cry out for cross-database index browsing and searching, as well as duplicate detection and removal features that are not yet available in Ovid Online. These capabilities were offered by BRS and are available on DIALOG and DataStar.

THE GRAPHICAL INTERFACE

The client software interface is almost identical to the CD-ROM version for MEDLINE that I raved about when it was released [4]. Here I will focus on online software features available for the other databases.

There are two menu modes online, the Full Mode and the Easy Mode. The Easy Mode is for novice users for whom a search by subject words, author, or journal name may suffice. The Full Mode offers many power features I'll discuss here.

One feature in the CD-ROM version, but not in the online version, is the use of the function keys to define the domain of the search (F2 for author, F3 for textword, F4 for journal name search, etc.). This is useful because function keys spare moving from the keyboard to the mouse and are single-finger operations (as opposed to the <CTRL><U>, <CTRL><R>, <CTRL><J> operations). Having these function keys could also alleviate the possible confusion caused by the multitude of key combinations for the same feature across platforms and modes—and even within one mode at different stages.

Onscreen help is available at many stages of a search. For example, when the list of databases is displayed, a short description automatically displays on the right side of the screen. The same happens when the list of fields and options are displayed to help the user decide which ones to use for searching, limiting, displaying, or printing.

The help text automatically changes as you move up or down a list. For that reason, I would call it "shadow" help to

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Ovid Technologies Comments...

We greatly appreciate Dr. Jacsó's many positive and constructive comments regarding the Ovid Z39.50 Client/Server, which is available to users of our online and locally-installed UNIX systems. We concentrated our efforts on retaining full Ovid interface functionality in this new environment, so praise of Ovid's thesaurus, tree, and classification code tools is particularly significant, especially given the complexity and importance of these database structures.

Continuous improvement of Ovid in response to customer feedback is our number one concern. Ovid Client/Server's evolution will be no exception to the ongoing development cycle. Through his writings, Dr. Jacsó has helped us compile and prioritize a list of desired enhancements. We will continue to direct significant programming resources toward rapid implementation of these and other customer suggestions.

We're working now to reload former BRS databases into "native" Ovid versions, allowing us to offer the advanced features of Ovid. Bowker's Books In Print (BBIP) and International Pharmaceutical Abstracts (IPAB) have already been reloaded. IPAB will soon receive mapping, thesaurus, and classification code tools. Sociological Abstracts, sociofile, and other databases are being converted and will be available in their reloaded versions soon. We are also actively developing several new databases never before available on BRS or Ovid.

Development is underway on several of the new search tools suggested by Dr. Jacsó, including SAME and WITH positional operators and a British/American spelling variant system. We see these tools as important enhancements, especially with our growing emphasis on full-text files.

Other requested enhancements are also upcoming. Mapping will be added to more databases, and will be "smarter" in its use of the permuted index and handling of plural versus singular queries. We're expanding the scope, content, and usefulness of our user help system. And we will be adding tables of contents linking features to PsycINFO, PsycLIT, and ClinPSYC.

Continued enhancement of Ovid starts with feedback from our customers and colleagues, and we thank Dr. Jacsó for his many valuable suggestions.

distinguish it from the traditional context-sensitive help on other systems, which pops up on the screen when the user asks for it—and which often disappears when the user starts acting upon the advice. Ovid's solution is much better, especially when syntax rules are shown and retained in the help window (Figure 1).

The traditional help file in Ovid, however, is taciturn, as if it had been written after watching too many Clint Eastwood movies. Particularly incomplete is the help about the dot-dot and sentence command syntax. Many powerful commands (TREE, SH, PTX, ROOT, and SCOPE commands) are not mentioned at all, although they represent excellent shortcuts and are simple commands.

Beyond using the well-designed and appealing pull-down and pop-up menus, the impatient or knowledgeable user may directly enter index browsing, thesaurus navigation, search, limit, print, and some administrative commands. The two levels of menus (full versus easy mode) and the macho command mode keep both novices and pros happy.

INDEX BROWSING

The options of browsable index fields in most Ovid databases cannot be beat. Both the choice and the content of the indexes are usually excellent, though there are exceptions, such as the Ulrich's database. Lacking an online thesaurus, for example, it is essential to be able to look up the descriptor index. In my long-time favorite online software, DIALOG, you cannot EXPAND only the descriptor index (unless a thesaurus is implemented). Descriptors are part of the basic index that also includes words (sometimes phrases as well) from the title, identifier, and abstract fields. Browsing (EXPANDing) DIALOG's basic index is like taking out a date for dinner chaperoned by nieces and aunts.

With Ovid you can have index browsing the way you want it. You may look at the index terms generated from an individual field, or you can mix your own combined index by selecting two or more indexes (Figure 2). For example, you may choose the author affiliation index alone or together with the sponsoring agency index—and the entries will be interfiled from the two indexes on-the-fly.

Pick one or several terms from the index by simply clicking on the entries. Scrolling up and down in the index is fairly fast even at 9600 baud. Alternatively, you may prefer to press the New Term button to jump to another part of the index that is several screens away. This could be easier only if the index would scroll as you type in another term.

Browsing permuted indexes is a powerful tool in many Ovid databases, and is a perfect compromise between phrase indexing and word indexing. The former preserves the original context but assumes that users know at least the lead term (Is it Pacific Hawaii University or Hawaii Pacific University?). The latter works for those who know a word or two from the compound term. However, the index does not show the full entry, but only the individual words, i.e., it loses the context. Permuted indexes have an entry under every component word of a compound term, except for stopwords (Figure 3).

FIGURE 1
Database Choice and Shadow Help

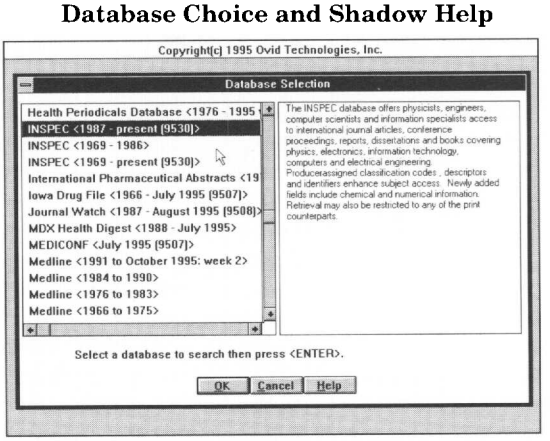
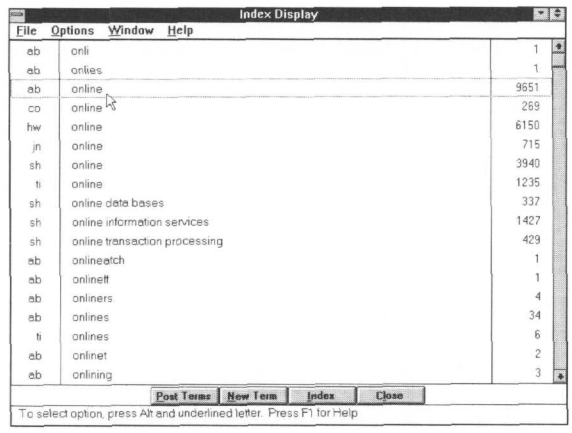


FIGURE 2 Entries from Indexes Mixed On-the-fly



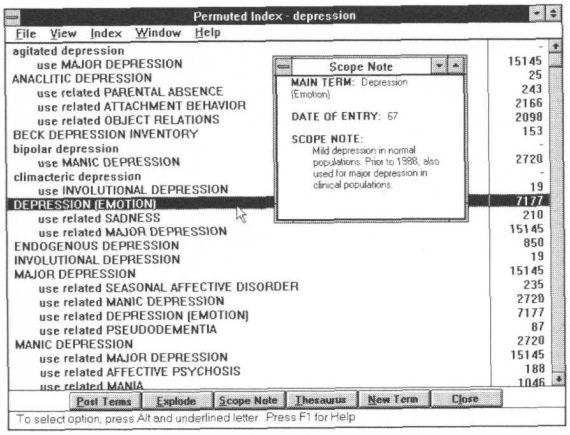


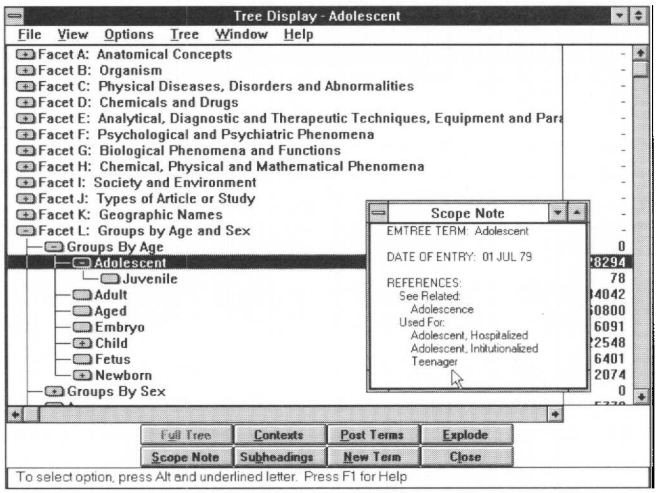
FIGURE 3 Permuted Term Index for Depression in PsycINFO

I wish Ovid would implement this type of indexing in all its databases, and would extend it to fields other than the descriptor field. It can be very effective for such fields as author affiliation, journal name, sponsoring agency, publisher, etc. These indexes can be looked up using the ROOT and PTX commands (where applicable), or through pull-down menus. These commands were also available in BRS, but in Ovid you must use one or more field tags, i.e., `root online.jn,co,de.`

No search software handles thesauri, classification schedules, and descriptor trees with as much aplomb as Ovid. Beyond the awesome handling of *MeSH* in MEDLINE and related files, the easily collapsible and expandable PsycLIT and COMPENDEX classification schedules, the EMtree of EMBASE, and the ABI/Inform thesaurus in Ovid (Figure 4) serve as exemplary models for other online and CD-ROM software developers.

These examples will make users eager for Ovid to implement the superb print thesauri of INSPEC, Sociological Abstracts, and the controlled vocabulary used by the nine Wilson databases on Ovid. The extremely subdivided Wilson vocabulary could especially benefit from the elegant handling of subheadings by Ovid that could take care of nine flies with one swat. The explosion of subordinated terms, display of thesaurus terms, trees, scope notes, and valid subheading lists would be accessible—if implemented —both through menus and the appropriate commands (EXP, THES, TREE, SCOPE, and SH— followed by the term).

FIGURE 4
A Visually Superior Classification Schedule



SEARCHING

In command mode, Ovid offers all the essential search features for typical bibliographic databases: controlled and unlimited truncation, masking (though only controlled), single and multiple field qualification, Boolean operation, and word adjacency operations. Multiple field qualification and the Boolean NOT are not available from the pull-down menus. Also, considering the emphasis on medical, biological, and chemical databases' left-hand truncation, automatic inclusion of British and American spelling variants would be welcome, and not only by ex-BRS users.

The much-coveted CCML full-text database, Harvard Business Review Online, and the databases that have long substantial abstracts (such as BIOSIS, RGA, MEDLINE, and EMBASE) would benefit from sentence proximity and positional operators. Ovid recommends the ADJ30 for same paragraph proximity (the old BRS SAME operator), and ADJ10 for same sentence operation (WITH in BRS). This is often good enough, but not always. While ADJ in itself specifies word order, i.e., `state ADJ police` will—correctly—not retrieve "police state," ADJ can be used with a parameter in which the order of words is undefined, i.e., `home ADJ2 nursing` meant to retrieve "home nursing" and "home care and nursing" would also retrieve "nursing home." In short, the equivalent of the Wn operator of DIALOG would be useful. With other full-text databases in the making, Ovid should consider implementing these additional search features.

The currently available, full-text megadatabase, the Comprehensive Core Medical Library (CCML) is a mouth-watering collection of medical journals and yearbooks that have the highest impact factors (*New England Journal of Medicine*, *Lancet*, *British Medical Journal*, etc.). Many go back to the early and mid-1980s. Full text is just what the name says. Charts, figures, tables, photos, and x-rays are not included, but their captions are, and they are fully searchable. The links to CCML also allow the powerful combination of searching the high-quality descriptors of abstracting/indexing databases and then jumping to the full CCML record by the press of a key.

When the full records also include the illustrations (as in the Ovid CD-ROM demonstration version of the New England Journal of Medicine), Ovid will provide one-stop shopping and instant gratification for many who are primarily interested in the core literature of medicine. Similar record linking is available in the Current Contents database family where table of contents records and individual bibliographic records are hot-linked. Having the know-how, Ovid is likely to implement such a feature to link the chapter-level and monograph-level records in PsycINFO, and hopefully will allow a link then to the publisher name in Ulrich's and Books in Print with the records that include the address, fax, and phone number of the publisher.

LIMITING

Topical limiting of searches is exemplary in many databases. Though it is not yet implemented in all the databases that use subheadings to qualify subject headings (i.e., Arthritis-Diagnosis, Arthritis-Drug Therapy), when it is available, it is top-notch.

Topical limiting pops up automatically to remind you of the possibility of refining your search. Only the subheadings valid with the chosen subject heading are shown, and then only if they have appeared in records of the chosen database (segment). There is posting information for the subject heading and the subject heading/subheading combinations to orient the user about the extent of use of the combination. One or more of the subheadings may be selected at once. An explanation for the subheading is displayed as shadow help (Figure 5). Heading/subheading combinations are also possible in the command mode, which also allows the use of super subheadings, i.e., XD for all of the regular subheadings related to diagnosis (diagnosis, radiography, ultrasonography).

Limiting to major (focal) headings is similarly smart and has an advance warning attitude (through display of the posting information). The option pops up automatically, and shows the total number of records to which the term is assigned as well as the total number of records where the term is assigned as a major descriptor. These numbers can help you decide whether to limit your search to those records where your descriptor is a major one.

Nontopical limits in most Ovid databases are also more generous than in their other online incarnations. I could easily limit searches to records with abstracts in many Ovid databases where this option is not available in other implementations, such as in CINAHL (when it was available on DIALOG). Also, there are unique limit options for many databases, such as the one that restricts the search to Longitudinal Studies, or Disordered Population in PsycINFO.

However, the nontopical limits are functionally not as sophisticated as the topical ones described above. I miss most the posting information for the limit entries (how many Hungarian-language documents are indexed), and the ability to select more than one limit category in the same round (i.e., English-language records from the latest update that have abstracts). In the command mode it is possible to specify `..l/18 lg=en and up=y and ab=y`, but in the menu mode the "one piece at a time" approach

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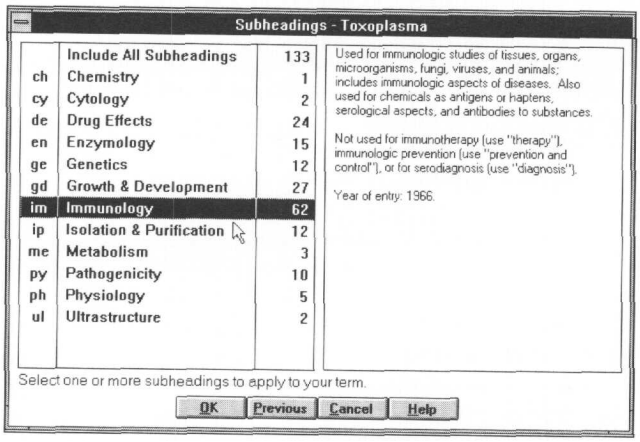
FIGURE 5
Subject Heading and Subheading Combinations



applies. On the smart side, it is an especially nice attribute of the limit operation that if your limit choice yields a set with zero results, you are given the option to undo the operation.

A unique feature that is particularly useful in limiting a search to the most relevant records in databases with substantial abstracts or full text is the term frequency operator. You may specify how many times a term must occur in the record to retrieve it, i.e., `online.tx. /freq=10 and search$.tx. /freq=20` restricts your search to records where "online" occurs at least ten times and "searcher," "searchers," or "searching" at least 20 times in the fields that are used to generate the text word (`tx`) index.

TERM MAPPING

Mapping is probably the most unorthodox feature of Ovid, though ex-BRS users and those who use the Windows version of SilverPlatter will find its Suggest (earlier known as Automatic Subject Lookup) feature familiar, though not identical. The most unusual aspect in Ovid is that mapping is not user-initiated but automatic, depending on certain conditions. A mapping prerequisite is that the database must have a controlled vocabulary implemented online, but not all such databases offer mapping. ABI/Inform has a thesaurus but no term mapping. When available, the mapping mechanism is triggered by entering a single or compound term without qualifying it to the author, journal, or textword fields, and without using a Boolean operator.

Mapping acts differently in different databases in different scenarios, and only a feature article about mapping itself could do justice to this complex operation. Here I illustrate the variations with a few examples from PsycINFO, but lacking detailed documentation I am speculating and second-guessing to some extent.

If the term entered exactly matches a descriptor (i.e., Databases), the user is so advised, and is led to the option to choose all the records where it appears or only those where it is a major term. If the term entered is a valid subject heading as is (i.e., Marriage), but is also part of other subject headings (i.e., Endogamous Marriage, Interracial Marriage, Marriage Attitudes), all the subject headings are displayed—without posting information. The user may select the most appropriate and continue through the usual path.

If the term entered occurs in the controlled vocabulary as a non-preferred term (i.e., Online Searching), then the user is advised (`Online searching has been mapped to a valid subject heading "COMPUTER SEARCHING"`), and the search continues as if the valid subject heading had been entered.

If the term entered is neither a descriptor nor a nonpreferred term, then Ovid looks at the *major* descriptors used in records where the term appears in the title and/or abstract field(s). The most often used descriptors (maximum ten) in those records are displayed, without posting information. This is where users (who don't know how this list of descriptors is generated) may get confused or misled. It is strange, for example, that on entering the term `marriage attitude`, ten subject headings are displayed, but Marriage Attitudes is not among them. Probably, it was not assigned often enough in records where "marriage attitude" occurs, but in such close situations the frequency-based choice should be partly overridden by some "closeness" criteria. The same should apply not only to plural/singular situations, but also for inverted variants (ocular toxoplasmosis versus toxoplasmosis, ocular), and spelling variants (data bases versus databases).

Mapping is a powerful feature that could be much more straightforward if a message were added, such as, "The term you entered is not a descriptor, but the following descriptors are close, and/or appeared in the records where your term occurred in the title and/or the abstract field." Given an option to ignore the descriptors offered and to execute the search for the entered term as a textword, mapping can become a heavily-used and well-understood tool. As with many other features, Ovid offers the option to turn it off.

DISPLAYING, PRINTING, DOWNLOADING

Displaying and printing offer the usual possibilities of choosing predefined formats, or improvising one by choosing the fields to be included. Though it is not possible to save the format under a name (as in DIALOG), at least it can be used permanently to replace the standard display and print format for a database. A nice touch is that the font size can be changed. Unfortunately, the hit list format (title and sometimes document type) cannot be changed. At the least, I'd like to see the publication year in the hit list—which would be easy to accommodate as a fixed, four-position field, preferably before the title.

The graphical interface adds grace to the underlying power of the search engine...

The generous customization options include the specification of the layout of subject headings and authors (in single or multiple column, or horizontal list format), the indention of tree

branches and subordinated class numbers, and the use of connecting lines.

The terms in your query are highlighted, but you get both less and more than you bargained for. There are no equivalents to DIALOG's KWIC format or the HITS format of BRS and SilverPlatter that ensure that the field (or part of it) where the search term appears would be displayed even if the field is not part of the format in effect. On the other hand, Ovid displays the single terms of a compound descriptor that may be completely irrelevant, very confusing, and distracting. If I search for `art adj2 collection`, then the first name of **Art** Buchwald should not be highlighted, particularly because Ovid, correctly, does not search in the author field index. Even worse is when the search term is part of another term and the character string is highlighted (as in b**art**, p**art**, c**art** sm**art**, he**art**, m**art**yr, or b**art**ender) anywhere in the record, including the journal name, author affiliation, chronological designation field, etc.

Downloading ("saving" in Ovid's terminology) also offers familiar features, plus the inclusion of the search strategy along with the results. Less usual is the set of download service alternatives that include email, FTP, or kermit options to send the results to the address specified by the user. Search strategies can be saved, annotated, and executed later. Sorting is possible on two criteria, and there does not seem to be a limit on the number of records that can be sorted. Sorting is not possible in command mode.

CONCLUSIONS

The Ovid Online graphical client features a deluxe choice of databases and outstanding Windows software that bring the best out of the databases' controlled vocabulary and classification systems. It offers many unique databases with features that increase the power of use and ease of use of the system. The graphical interface adds grace to the underlying power of the search engine and boosts intuitivity. There are some weak points in the software (such as the lack of explicit positional and more sophisticated proximity operators and the confusing highlighting of "matching" terms), but these can be corrected.

Some databases (INSPEC, sociofile, Books in Print) have not yet been endowed with the best powerful and unique features of Ovid, such as permuted term index, mapping, thesaurus display, and navigation, but they are likely to be implemented in 1996. Ovid could be enriched by features related to cross-database searching (like the CROSDISP, CROSIN, CROSOUT commands of BRS, or the OneSearch feature of DIALOG), by utility files (similar to the Finder files and DIALINDEX of DIALOG), and advanced commands such as the RANK command on DIALOG.

Online service providers may have dismissed the wizardry of Ovid with the thought that these things can't be done online. Well, they can be done, and considering the many extra features—at a competitive price. Ovid databases don't yet number in the hundreds, but Ovid has shown its strength not only in the development of software capabilities, but also in market competition. As of this writing Ovid is the only online service that offers CINAHL, the popular database for nursing and allied health literature. Ovid was also the first to update, at the end of August 1995, the online version of Books in Print that Bowker kept in hibernation for eight months by not sending update tapes to any of its online partners (nor a note of explanation or apology to its users).

The professional online marketplace has been changed drastically by the entrance of traditional CD-ROM publishers who bring many innovations in software functionality, database choices, service rates, and customer liaison. Stalwart online services should take notice and gear up their development efforts if they want to catch up with Ovid in some areas and keep their customers. Ovid started in the online business by buying an ailing online service. It seems it may also be capable of making other online services ailing.

Product in Brief

Product:
Ovid Client for Windows

Hardware Requirements:
- 386-SX processor, 486 recommended
- 4MB RAM, 8MB recommended
- 12MB free hard disk space
- DOS 5.0 or higher
- Windows 3.1 or higher
- VGA video or better
- Winsock-compliant

PC/TCP Internet connection (if via modem, must be 9600 baud or higher)

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I appreciate the opportunity to have had unlimited access to the client/server version of the Ovid software at its alpha and beta testing phases. It was like popping in the bride-room while she dresses, does the makeup, and gets ready for the walk to the altar. Actually, it was probably even worse since I kept asking questions and requesting help with downloading the latest versions of the client software. Many at Ovid Technologies are to be thanked, but particularly Bette Brunelle and Kevin Thomas, without whose help I could not have met my deadline.

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