

that can only understand homosexuality as a threat to manhood, not an expression of it. While Leverenz was helping out with the kids, he ought to have thought a little bit about subjectivity and desire, ought to have read some accounts of the ways in which women who are raped are accused of secretly "wanting it," and ought to have wondered if the extension of the erotics of the body to otherwise forbidden territories, such as the anus, could be imagined in terms other than rape. The language of the body is a social language, and one of Whitman's efforts was to invent a new and enlarged vocabulary.

Whitman is a central figure in the redefinition of masculinity in mid-nineteenth-century America, and not only because of his position as a self-conscious homosexual. His attempt to make use of feminist theory led him at times to assertions of equality, at other times, to a sense of inherent roles. He sensed that the exclusion of women from public life and the repression of female sexuality meant the impossibility of establishing egalitarian heterosexual relationships. Most importantly, since Whitman is after all a poet and not a political theorist, he believed that sexual energies must be dispersed, both physically and linguistically, in order to overcome the order of the Phallus. By creating a new poetics of process and diffusion, based upon a repeated orgasmics and an eroticisation of the entire body, he led the way towards a male poetry of *jouissance*.

Concordia University

ROBERT K. MARTIN

WordCruncher Bookshelf Series: Walt Whitman. Poetry and Prose. Provo, UT: Electronic Text Corporation, 1988. Computer software. \$94.00 (*WordCruncher* program needed to run the text, \$299.00).

All merges toward the presentation of the unspoken meanings of the earth,
Toward him who sings the songs of the body and of the truths of the earth,
Toward him who makes dictionaries of words that print cannot touch.
("A Song of the Rolling Earth")

Edwin Harold Eby's *Concordance of Walt Whitman's Leaves of Grass and Selected Prose Writings* (Seattle: University of Washington Press, 1955) is a weighty book that is now difficult to find. Despite its usefulness, it will probably never be republished. But now there is an alternative to searching used-book stores for rare copies of Eby's book. The Utah-based Electronic Text Corporation, publishers of the *WordCruncher* software program, have come out with an electronic edition of Whitman's works: it is a text, a concordance, and much more. With the publication of this software, Whitman research enters a new stage.

Some scholars might be tempted to see the *WordCruncher Whitman* as a more or less entertaining toy; others will despair and will see it as the ultimate perversion of literary research, the final triumph of technologized formalism over humanistic ideals. There is something to these worries. With the author's entire *oeuvre* literally at one's fingertips, the ultimate stage of accessibility has

been reached; the literary work has been so thoroughly turned into a commodity that it may lose its character as a work of art in the traditional sense.

A German review of the *WordCruncher* project has argued that such electronic texts and programs are merely tools the researcher can use in order to support and enhance the traditional reading process which, in itself, can never be replaced. This view, however, seems fairly naive. Once we have synchronous access to all parts of the work, our reading habits are bound to change, along with our appreciation of the work of art as an integral whole. To lament such developments, however, hardly does justice to Whitman, whose singular modernity has in a sense paved the way for the high-tech literature we have been given by the folks from Utah. Moving around *Leaves of Grass* at will, starting from any word or phrase, getting a computer window of three lines, or, if we want, a whole screenful of context (or, finally, as much of the context as we want), opens the possibility for a non-sequential and therefore non-hierarchical (and, Whitman might have added, democratic) notion of literature. At the very least, this software brings us closer to Whitman's call for a book that is less self-contained and more in tune with the human nervous system: "Let the paper remain on the desk unwritten, and the book on the shelf unopen'd!"

Fractal geometry has raised the computer's status to that of a simulator modelling the creation of the world. In the wake of the discovery of the Mandelbrotian notions of chaos supposedly ruling the universe, the world as we have made it up can now be "crunched" and newly refashioned—according to the Austrian-Brazilian philosopher Vilém Flusser, we live in the first age when human beings have had a chance to be "truly creative." *WordCruncher* (which might more accurately be called *TextCruncher*) enhances the creativity with which readers may approach Whitman's text. It gives them the power to isolate, sort, then combine, and even (through its printing capacity) collate the original text. No longer tied to the immovable printed word on the page, readers may now move about at will, discover otherwise hidden structures within the text, and create subtexts.

At a time when poststructuralist critical theories have led the way toward the de(con)struction not only of the author but also of the texts themselves, Electronic Text Corporation has given us a tool with which to deconstruct efficiently and even systematically. It will make even more unlikely a return to the old treatment of texts as inviolable wholes. Electronic texts are here to stay, and Whitman is now literally sung electric. It may seem strange that the Mormon Church (*WordCruncher* was developed at Brigham Young University) should, through the development of this software, be contributing to the notable shift of values implicit in the concept of electronic literature. The original purpose of the program was to facilitate a more thorough examination of the Bible; this goal (as well as a general love of literature) led James Rosenvall, Monty Shelley, and Randall Jones and his associates from Brigham Young to develop and produce these tools. Yet the dialectics of history have repeatedly demonstrated that technological innovations have incalculable effects which may in time even turn against their original purpose.

But let's put aside such dark thoughts for the moment and acknowledge the obvious: most Whitmanites will want to get the *WordCruncher Whitman*. Only a

few days after entering the magic of the electronic Whitman, one grows strangely attracted to it. The 4.5-plus megabytes one has to set aside on the hard disk are a first-rate scholarly investment. Whitman researchers are, at least in this respect, better off than those dealing with Melville or Hawthorne. (Incidentally, the time is near when students will know their authors in terms of megabytes; the 1855 *Leaves* has 198,782 bytes.) The texts scanned onto disks are taken from Justin Kaplan's Library of America Whitman volume (*Complete Poetry and Collected Prose* [New York: Library of America, 1982]). The software thus contains two editions of *Leaves* (1855 and 1881 with annexes), the *Complete Prose Works* (1892) and a supplement of "fugitive prose pieces," including "The Eighteenth Presidency!" Some Whitman scholars might have preferred the New York University Press Comprehensive Reader's Edition of *Leaves* (1965) as the text-base, but *WordCruncher* favors uniform and standard textual editions for all of the "Classical American Writers" they are scanning. (The *WordCruncher* Bookshelf Series offers a variety of authors so far, mostly nineteenth-century American writers, and the inclusion of many more is planned—indeed, even the fourteen volumes of a comprehensive standard edition of Goethe [*Hamburger Ausgabe*] have already been scanned.) At any rate, the Library of America edition of Whitman contains much more material than Eby included in his concordance (which contained only a few selected prose writings), so the *WordCruncher Whitman* offers scholars complete access to a good deal more of Whitman's writings than they have had up to this time.

The installation of *WCView*, the part of the *WordCruncher* system used for work with the Bookshelf Series, is extremely easy (certainly much easier than the relatively involved documentation at first suggests) and takes only a few minutes. The Whitman texts are available in the form of six 3.5" or eleven 5.25" disks. Immediately following installation, one is ready to access the alphabetic reference list of words and the corresponding contexts of the individual words appearing in the expanded window display. Roaming around these lists is in itself revealing. Robert D. Faner, when working on his *Walt Whitman & Opera* (Carbondale: Southern Illinois University Press, 1951), must have spent a good deal of time counting the frequency distribution of musical terms in *Leaves* and collating the various sections containing references to music. The groundwork for this sort of study can now be done in a few minutes. (Incidentally, a comparison between Faner's statistical list of "Music Vocabulary in *Leaves of Grass*" (pp. 122-125), based on the 1946 "Inclusive Edition" of *Leaves*, shows that he missed a few references here and there.)

Other frequencies of interest: in the Deathbed Edition, the word *I* appears 3061 times, *myself* 197 times. A quick compilation of all uses of *book*, *print*, and *read*—sent to the printer with a special key or simply through "print screen"—yielded the quotations used earlier in this review (which, of course, one might also have found—though more slowly—without *WordCruncher*). Frequency distributions, which can conveniently be listed in a "Report" complete with percentages, are only the beginning. Stylistic/grammatical and even phonematic analyses can be conducted by looking up all words with the same prefix or suffix (substring). Semantic and interpretive studies will be facilitated by the "Combine" function permitting the user to identify references that contain specified words or lists of words in specific combinations. A special function

permits looking up combinations of words occurring in the same paragraph. The many things that can be done with other functions of *WordCruncher's WCView* are too numerous to mention here. It is certainly possible to devise one's own analytical strategies, and of course it is also possible to use one's own texts with the program. The second section of *WordCruncher*, *WCIndex*, allows one to index texts for use with *WCView*.

Here, from my own research, is an example of how the program can help. Whitman's works have been universally acclaimed by the Marxist and non-Marxist Left throughout Europe and the Americas. With *WordCruncher*, it was possible to access key terms of Marxist rhetoric such as *masses* (eighteen occurrences), *struggl** (52), *revol** (51), *democr** (268), etc. The numbers themselves already suggest the familiar tunes leftist agitators (including Marx himself, who supposedly liked to recite "Pioneers! O Pioneers!") must have identified—and appreciated—in Whitman. In the course of a similar comprehensive analysis of "generic" Marxist texts (eventually also through the Bookshelf Series?), we will therefore get close to at least one important (material) dimension of a surprising reception phenomenon.

With electronic texts, the discipline of literary study is entering a qualitatively new stage of its development, one that offers tremendous possibilities and challenges but also brings with it equally worrisome implications. The form as well as the significance of literary scholarship is about to undergo radical changes. Already the computer as word processor has permitted a tremendous increase in the number of publications, thus (at least according to an economic logic) decreasing the value of each individual work. With software such as *WordCruncher*, we will probably move further away from traditional scholarship. As the machine is doing the finding, sorting, collating, and printing for us, we will perhaps have time to think about the meaning of it all: ". . . the cow crunching with depress'd head surpasses any statue . . ." ("Song of Myself"). Crunching cows and dictionaries print cannot touch, *WordCruncher* is here.

Karl-Franzens-Universität, Graz, Austria

WALTER GRÜNZWEIG