N. Katherine Hayles [1] is a proponent of a critical method she calls "media-specific analysis," which is "a mode of critical interrogation alert to the ways in which the medium constructs the work, and the work constructs the medium." With her fascinating book *Writing Machines* [2], she comes to the subject late. Yet *Writing Machines*, published in 2002, is timely. As she states:

... the literary community [can] no longer afford to treat text on the screen as if it were print read in a vertical position. Electronic text has its own specificities, and a deep understanding of them would bring into view by contrast the specificities of print, which could again be seen for what it was, a medium, and not a transparent interface. [3]

To students of new media, the concept of materiality and medium as shaping components of artworks is so basic that it might seem strange that it remains radical in literary studies. The meanings of literary works are generally still thought unrelated to the media in which they are presented, or for which they are written. While a host of experimental poets and writers on poetics have been daily exploding that view for decades [4], their work is culturally marginal. *Writing Machines* is part of a push to help bring such modes of analysis from the margins into the mainstream of criticism. The emergence of electronic literatures in the 20th century and the ever-increasing use of new media in literature means that the acceptance of media and materiality as dimensions of literary meaning is inevitable, no matter how long it has been delayed. Besides making electronic literatures critically legible, it could crucially affect the whole business of literary criticism, to the point of completely changing the way certain canonic writers are interpreted. [5]

I imagine that the resistance to Hayles' line of thinking, therefore, begins with sheer horror at the prospect of adding yet another dimension of complexity to an already difficult pursuit. The mere acceptance of electronic literature as historically legitimated, a basic premise of *Writing Machines*, poses enough of a problem in itself. One of the questions (or spectres) *Writing Machines* raises is that of the possible (eventual or actual) obsolescence of print. [6] To some literary scholars, the study of cyber-literature -- or even accepting anything but print as a valid platform for literature -- must make them feel like conservationists dining on dolphin steak. [7] Bibliophilic Hayles, however, is careful to state that she thinks those fears are unwarranted. Due to their sturdiness, usefulness, and their particular virtues as knowledge-storing systems, books (and print) will be with us for quite a long time yet. [8]

Whatever phase of print culture we are in now, it certainly didn't start with the spread of home computers or IT; it has roots centuries deep. The still evolving general concept of hypertext (best defined as: texts with multiple reading paths) was culturally present as
And so Writing Machines is stimulating for those interested in the literary dimensions of new media, or for students of literature not intimidated by new complexities. Even if Writing Machines is only an incomplete foray into the area, it's worth reading for the host of useful formulations and valuable information it contains, and for the model it provides of an integrated approach to materially-oriented criticism. Hayles also takes great pleasure in her task, which is endearing in any writer. Nevertheless, I believe most readers will agree that when considered in its totality Writing Machines disintegrates.

The autobiographical (or pseudo-autobiographical) narrative components are the most galling aspect of the book. Where Hayles sounds high-minded and brilliant in many of the critical chapters, the quality of the writing in the narrative ones plummets to almost blog level -- unpleasantly raw. [15] The reason for this might be that she applies the manner of her critical writing to the very different task of personal narration. Doing so, she betrays that she neither has any skills as a storyteller nor as a creator of modulated narrative prose. Someone in the chain of command -- writer, editor, publisher, friend? -- should have recognized this and either tended a helping hand or a pair of scissors. If the narrative chapters were replaced with more critical explications, or if the narrative and critical materials were more completely integrated, Writing Machines would be a far superior book. The critical components of the book, however, have their own problems.

From the start, Hayles omits from her study almost all the valuable work that has already been done on the topic of "media and materiality" in literature. Much of that work has been accomplished through experimental poetry and its critics, recently extended into discussion of electronic literature. The omission is incomprehensible. No body of writing in the world is more relevant to what Hayles attempts in Writing Machines. Most of what she is saying has been said, often more charismatically, often more clearly, albeit with different objects in mind. Although I haven't read everything in the field, I know that the history she is ignoring goes back at least as far as the 1960s, if not to the first writings on Mallarmé, who died in 1898. She claims to know that this work exists, she even lists some of it in her online bibliography, but the same interview quoted above includes this remark:

"This idea is hardly new; innovative poetic practice, artists' books, concrete poetry, and a host of other literary and creative practices have been exploring it for a long time. Yet literary criticism has remained largely untouched by these experiments."

If criticism has indeed been "untouched," it would be because Hayles' colleagues chose to trivialize (or simply ignore) a considerable body of critical writing by people who are -- we are forced to infer -- outside of "the literary community."

Due to the ubiquity of computers and by virtue of the fact that the WWW is still basically a gigantic reference text -- I have heard it called an endless library of informational pamphlets -- hypertext may have already become our new paradigm of reading. If so, it would be the first such shift since the invention of the codex.

As a consequence of this, Writing Machines has an improperly maverick tone. Hayles often sounds as if she perceives herself as being naughty and very brave to venture into this territory. She formulates old ideas as if they were entering the world for the first time. She also self-dramatizes her intellectual process to make her not very original theories sound admirably hard-won. Maybe she doesn't really "get" the poetics of the kinds of work she is approaching; by "get" I mean to grasp intuitively how the work is positioned, which is necessary for writing effective
criticism of it. Her chapter on A Humument is the major speedbump: anyone who has seen A Humument knows it is a whimsical, irrational, mercurial piece. Instead of giving it an appropriately lithe reading, Hayles goes at it with bulldozer and dynamite, like a paleontologist of old:

The material operations of writing and reading take center stage on page 105. This page is visually transformed into the space of the room, inviting us to project our proprioceptive sense into the scene. Moreover, the space is imaged as an art gallery, complete with a picture on the wall and pedestals associated with the display of art objects. Instead of physical objects, here the pedestals are occupied by rivers of text, a move that imaginatively cycles through the (absent) object to arrive at the words. The text reenacts this displacement by proclaiming a punningly appropriate phrase that performs what it names, abstracting the missing artifact into "abstract art." The displacement thus cycles through the (representation of) a material object, which gives specificity to the abstract cognitive activity of making these punning connections. Another pedestal-object proclaims: "art," while the third comments: "which made time penniless," an allusion to the complex processes by which material objects are abstracted into "timeless" art, as if the object could be removed from its historical specificity and treated as a representation that exists independent of its material circumstances." [16]

Such accidental boorishness makes us also seriously distrust her readings of the other main works she presents, Lexia to Perplexia, and A House of Leaves, as well of the many succulent book works she describes in Chapter 5. What is really upsetting here is that we begin to wonder if Hayles is perhaps, by her sensibility, simply locked out of an understanding of poetics. If so, she finds herself in a kind of Ancient Mariner scenario -- thirsty, but unable to drink from the body of water her ship floats on. Most of what is happening, and is likely to happen, in electronic literature is dependent on a subtle, para-textual poetics. If Hayles can't even pick up such signals in a relatively accessible work like A Humument I fear she will go on missing crucial contextual clues, and continue using the wrong tools for her job.

Writing Machines came along at the right time, and in many ways it offers a fresh look at important ideas. Hayles' brilliance and enthusiasm carry us through to the end, and even bring us back to poke around in the better passages. I sincerely hope that in future books, she will avoid the errors that make Writing Machines -- so promising, so fascinating -- so disappointing.

References:
[6] For starters, try the search strings: "Is print dead?" and "Print is dead."
[15] "Newspapers meant the Clarence Courier, a weekly dominated by such breaking news as Mrs. Floyd Jones having afternoon tea with Mrs. Robert Smith, where a jellyroll was served and enjoyed by all. She did not see a dial telephone until she left home for college; in Clarence she used the phone by cranking the ringer, whereupon Delores, the town operator, would answer and ask what number she wanted, no doubt continuing to listen in to catch the juicy bits. Television, like all things technological, came late to the little town, arriving a good decade after it had hit the big cities of St. Louis and Kansas City. The family purchased its first set when she was nine, and she still remembers staring at test patterns, sitting through Howdy Doody, and watching Cowboy Jim gulp down Prairie Farm milk. […]" Hayles, p. 11.
[16] Hayles, p. 97 - 98. See the page described in full color in the online supplement under "Source Material"