

## **Credibility of the Web: Why We Need Dialectical Reading**

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Many educators today recognize the importance of online data sources for all sorts of research and writing projects. Some now permit students to include online sources in their work and others actually require their use. There are abundant resources available online, including real-time video; radio stations from around the world; reference tools, such as encyclopedias, dictionaries, thesauri, and collections of quotes; libraries of poetry, short stories, images, and music; critical studies and research articles on every conceivable topic; information about authors and historical figures; government and public policy data; current events; interactive software; and much, much more. At the same time, most users quickly see the problems that arise. Issues of privacy, plagiarism, pornography, hate sites, commercialism, and simply wasting time arise regardless of the topic. The abundance soon yields thousands of web sites of dubious quality and relevance.

The World Wide web is growing rapidly, unpredictably, unevenly, and without the familiar guideposts of established publishers and vetting procedures. As the web assumes ever greater importance in education, research, and daily life, these phenomena deserve more critical examination. Is the web a bountiful source of information and resources on every conceivable topic, as some claim? Or, is it unreliable, ephemeral, and over-commercialized as others warn? Do we need to develop criteria for evaluating web pages to separate the good from the bad? Is the web a fundamentally different medium that requires new modes of critique? This essay explores how characteristics of the web lead to it being simultaneously a great and a questionable source of information. The issue then becomes how we should read such a complex and contradictory text.

### **The Growth of the Web**

Cyberspace appears at times to be lawless. But there are two descriptive laws that have shaped its destiny. Moore's Law and Metcalfe's Law define, at least metaphorically, the vast growth of the web, with both its promises and its problems.

The widely-cited law proposed in 1965 by Gordon Moore holds that the computing power of a microchip will double every 18 months. This generalization has held up for nearly four decades. As chips have become smaller, more transistors can be placed on each chip,

allowing new features to be added. The speed increases because the distance between the transistors is reduced. The accumulation of these quantitative changes has brought about qualitative changes in what computers can do.

As more transistors are packed into smaller and smaller spaces, microchip technology is approaching natural limits. At the size under development today, atomic layers can be counted and identified. Even Moore (1998) himself says now,

So at some time in the next several generations, we really start to get to some fundamental limits. But not before we've gone through probably five more generations of technology. If you extrapolate all those curves together ... we run out of gas doing that in the year 2017.

Metcalf's law has an even more direct connection to the growth of the web as a gigantic library. It states that the value of a network increases as more people use it:

If you had the only telephone in the world, who would you call? Networks seem to grow more valuable to a user proportionately with the number of other users he or she can call. In a network with  $N$  users, each sees a value proportional to the  $N-1$  others, so the total value of the network grows as  $N*(N-1)$ , or as  $N$  squared for large  $N$ .

Just as with Moore's Law, this law about networks has natural limits. Metcalfe (1995) himself points out that once a critical mass is reached mere growth may not add much value. A telephone becomes valuable as more of the people one would like to call have a telephone, but there's a lesser increase in value once most of those people have a phone.

The production of inexpensive computers and the attraction of networks has fueled the growth of the web. This raises the question: How large is the web today? Like many simple questions, this one turns out to be more complicated than it might at first appear. It hinges on the definition of terms such as "large" and "web". Different assumptions and different approaches to measuring the web lead to varying results. Most of these numbers have been doubling every 12 to 18 months. Various surveys estimate that there are roughly 200 million users of the Internet. This is about 3% of the earth's population. More than half of those users are in the US and Canada. Other surveys calculate the number of active internet addresses to be around 40 million.

A web page can be anything from a few words, to a site with video, interactive software, music files, or extensive text. Thus when we say that there are so many pages on the web, it is not quite the same as saying so many pages in a book. Still, if we knew how many web pages there were, we would have some idea of the size of the web, at least relative to what it has been. By comparing the pages returned by various search engines, Steve Lawrence and C. Lee Giles (1999) derived 800 million pages as a lower bound for the size of the publicly accessible web. This means the web contains at least 800 million pages, probably somewhat more. They estimate further that these pages contain six terabytes of data versus the 20 terabytes of the entire Library of Congress. Lawrence and Giles found that the best of the search engines finds only 16% of the web pages, not counting those behind firewalls. These issues need to be understood when one is interpreting the results of a search and evaluating the overall usefulness of the web.

## **Credibility Challenges Posed by the Web**

The immense body of information currently available through the web coupled with its rapid, almost chaotic growth hold great promise, but raise serious issues about the legitimacy, veracity, relevance, and timeliness of for web texts. Challenges to the credibility of sites on the web come from many factors. Among these are the speed of change to web sites, the sheer quantity of information, commercialism, the distributed authority of web authorship, and the nature of hypertext.

Prior to the web, the issue of speed was not often mentioned in discussions about the authority or credibility of texts. What has changed is that the web combines in an interesting way the archival capacity of printed text with the real-time malleability of broadcast media. In some contexts, this means that the web assumes a greater potential veracity. For example, web sites can include video segments produced in real time. They can be updated as new information appears. On the other hand, the fluidity of the web is one of its greatest defects. If the meaning of a site is defined in part by its relation to other sites, then one might say the meaning deteriorates rapidly, because links decay speedily over periods as short as a few months. Also., the fact that web sites can be produced quickly does little to increase the confidence of users that the sites have been thoughtfully constructed.

The CNN Interactive web site is updated every few minutes. Other sites are created, posted on the web, and never changed. Some sites, but not all, indicate when they were last updated, but it is usually difficult to determine whether the page you are viewing is the most recent in a series or just the one you happened upon. For an article about Beowulf, the timeliness issue may not appear severe, but for many domains, the question of timeliness is critical, yet unanswerable.

Beyond sheer speed, the enormous size of the web is another dubious blessing. Hundreds of millions of pages hold forth the promise of presenting the text or images we seek, but the sheer volume of material gets in its own way. For example, a search for the US Department of Commerce's report, "Falling through the net," about the racial and income inequities in access to new information and communication technologies yields articles about World Cup soccer, and the performance of an accomplished goalie defending her team's net. Other searches find obsolete versions of material that exists elsewhere on the web, while missing revised texts.

Given the number of web pages, it is actually surprising that one can find anything at all, much less doing so in a matter of seconds. Improved search engines make that possible, especially when the user understands how the search engines work and puts some effort into selecting a good set of keywords.

There is so much material on the web that the irrelevant far outweighs the relevant for any search. As Lawrence and Giles have pointed out, web search engines are useful resources, but they lack comprehensiveness and timeliness. They compare the current state to a phone book has most of the pages ripped out.

Commercialism is another issue for the web as information resources. Most web sites are created to sell something, not to provide valid and useful information. A recent estimate is that 83% of sites have primarily commercial content (Guernsey, 1999). Even in cases where the information is useful, the commercial assault is something to be avoided in schools and other learning environments. Very often it is difficult to get past the many

commercial sites, which have engineered their web pages to appear first no matter how one specifies a search query.

Turning to the non-commercial sites provides no easy solution to the issue of quality. The beauty of the web is that anyone can make a web site, for less than the cost of publishing a pamphlet. But a consequence of this is that there is no resort to any kind of recognized textual authority, no board of editors as for a respected encyclopedia, who invite authors and vet articles for publication. And authority is a highly disputable term on the web. When students, or anyone for that matter, actually do find relevant information on the web, it is all too easy to copy that material without attribution.

Moreover, it is unfortunately the case that one cannot imagine any dark corner of human activity that is not now finding its representation on the web. Sites promoting substance abuse, suicide, bomb making, racial hatred, interleave with children's artwork, poetry, music, and images from the Hubble telescope.

Finally, the hypertextual format of the web is touted as one of its great virtues. Every web page draws in part from its intertextual relations with other web pages. But that makes it difficult to determine where meaning resides. The vast quantity of the web pretends to a universality that it cannot support. It represents human knowledge, cultures, and values very unevenly, yet the hypertext medium suggests that everything is really there and equitably represented somehow.

Moreover, to an extent not fully appreciated by most users, the meaning is constrained by not only the web pages themselves, but by the search engines that navigate the hypertext, and by the interaction between the search engines and commercial and governmental interests. Most search engines are commercial enterprises designed to entice users by just good enough searches and thereby to expose them to advertisements. Web pages in turn are constructed to attain high positions in the search indices so that users will see those pages first. This means that searches that purportedly present information in some neutral way are actually strongly shaped by interests independent of, if not opposed to, the inquiry of the user.

## **The Web as Library**

The universe (which others call the Library) is composed of an indefinite, perhaps an infinite, number of hexagonal galleries, with enormous ventilation shafts in the middle, encircled by very low railings.

Thus begins the fantastic tale Jorge Luis Borges wrote in 1941, called "La Biblioteca de Babel" or "The Library of Babel". When Borges was 58, he became Director of the National Library of Argentina. In his fictional library he envisions a world populated by books. These books are held in a fantastic Library, whose architecture is like no existing library, but is nevertheless carefully and believably constructed. Each of the galleries within the Library is hexagon-shaped with bookcases on four sides. The free sides lead to hallways from which one can reach additional galleries.

There are five shelves for each of the hexagon's walls; each shelf contains thirty-five books of uniform format; each book is of four hundred and ten pages; each page, of forty lines, each line, of some eighty letters which are black in color.

These books contain all possible arrangements of the orthographic characters, punctuation, and spaces, leading some to assert "the formless and chaotic nature of almost all the books". It is assumed that

the Library is total ... [it includes] the minutely detailed history of the future, the archangels' autobiographies, the faithful catalogues of the Library, thousands and thousands of false catalogues...the translation of every book in all languages.

This totality of texts means that one can find anything in the Library, beautiful writing in every conceivable genre, information for every purpose, and guidance for every problem:

When it was proclaimed that the Library contained all books, the first impression was one of extravagant happiness...As was natural, this inordinate hope was followed by an excessive depression. The certitude that some shelf in some hexagon held precious books and that these precious books were inaccessible, seemed almost intolerable.

The web today hides its treasures behind a greater mass of semi-precious, and junk-grade texts. Moreover, it holds worse than useless works. As Borges would surely have surmised, it contains libelous portrayals, pornography, hate sites, and simple falsehoods. This phenomenon of nonsense growing faster than sense has led many to seek ways to clean up the web. So, in Borges's library,

Others, inversely, believed that it was fundamental to eliminate useless works. They invaded the hexagons, showed credentials which were not always false, leafed through a volume with displeasure and condemned whole shelves: their hygienic, ascetic furor caused the senseless perdition of millions of books.

For better or worse, the attempts to limit the web appear to be similarly futile. Restrictions of web use in one country are quickly countered by the appearance of new web sites in another. Attempts to monitor web use are defeated by tools that allow anonymous use. Replication and expansion of content proceeds much faster than any kind of control, whether rationalized by moral values or goals of content correctness. The web remembers, because sites not only link to, but mirror, each other by copying content.

(since the Library is total) there are always several hundred thousand imperfect facsimiles: works which differ only in a letter or a comma.

What does all this incredible content mean? Are we moving toward some global encyclopedia that accounts for everything or to an entropic doom of maximal disorder? Can we imagine that the web itself holds the explanation of its own purpose and intrinsic worth?

On some shelf in some hexagon (men reasoned) there must exist a book which is the formula and perfect compendium of all the rest.

Unlike an encyclopaedia, or a conventional library, Borges's Library has no catalogue, no organisation, no board of reviewers, no content policies, no authoritative authors, and no canon of established works. Or rather, it has all possible catalogues, etc. It contains every

proposition and its negation, hence it is totally contradictory and incoherent. While stability over time is a goal for a conventional collection, stability has no meaning for the Library. It suffers none of the limits of time and space that define conventional collections. These attributes lead its users to both "extravagant happiness" and "excessive depression".

Conventional libraries are rapidly being converted into digital libraries, and the web itself functions as a new medium for text creation. Thus, it is both as a repository for existing texts and as a global publishing house for new texts. By most accounts, the web is now comparable to major university and national libraries, though it is still smaller than the US Library of Congress. However, many libraries are now rapidly entering their texts, photographs, movies, and sound recordings on the web. It is thus clear that the web will soon surpass any conventional library in holdings. Given the size of the web, and its rapid growth, it is not surprising that there is much work underway to build better search engines, search directories, filters, jump sites, portals, and other technologies to enable more productive use of the web.

Though it does not have the unimaginable extent of Borges's Library, the web compensates by its capacity to grow, to create a *de novo* response to every conceivable query. It is indefinite in extent rather than infinite, but its appearance to a reader is more like that of the Library than that of most conventional collections. The fact that new entries appear in the time of a single search is but one indication of its dynamic nature.

## Modes of Reading the Web

The richness of the web, and its corresponding unruliness, raise a fundamental question about the credibility of web sources, and accordingly, how one should read the web. Various approaches to addressing this question recur in the plethora of writings about the web. These range from seeing the web as a great boon to seeing it as useless, or even dangerous.

A useful framework for address this question is Walter Kaufmann's essay (1977), "The Art of Reading", in which he sets forth a taxonomy of modes of reading. In that essay, Kaufmann concerns himself with characterizing and promoting humanistic education, which he defines as including the preservation and appreciation of the great works of civilization, the realization of personal autonomy through reflection, and the acquisition of a personal vision. His question then, is whether it is possible to read the great works in different ways, and if so, which of these ways are most likely to advance that ideal of education.

If we see the web as a massive text, we may then ask what are the different modes of reading it. For example, one prevalent view is that the web offers great resources, and that our task is to understand how to use it so that we fully appreciate its bounty. This view is akin to Kaufmann's *exegetical* reader, for whom the text is definitive and the reader need only study it thoroughly to divine its true value. The exegetical reader of the web assigns superior merit to the web. Compared to print sources, the web is seen to represent meaning through multimedia that gives richness and authenticity. The hypertext format allows copious interconnections of sources, providing meaning beyond that of any individual page. The rapid updating of web sites, including, in the limit, the use of live cameras, implies a freshness and verisimilitude that print cannot afford.

Just as readers of a sacred text, exegetical readers of the web impose their own values on

the text. They choose the elements that reflect their own preferences and then employ the text to legitimize those preferences. They typically select and appropriate specific web resources to illustrate the excellence of the web for a given purpose, conveniently ignoring the lesser sites that others bemoan. The danger here is obvious; the exegetical reader does not enter into the web critically, and thus promotes a superficial understanding.

In contrast, other readers approach the web in a *dogmatic* mode. They assume the superiority of print media, and look for confirming evidence in the web or its typical uses. The rapidity with which URLs become outdated, commercialization, the ease of access to pornography, and most of all, the knowledge that anyone can make a web site, are all seen as reasons to be suspicious of the web. Where the exegetical reader sees bounty in the multiple sites on a given topic, the dogmatic reader sees chaos and the inability to judge good from bad. The more the web grows, the more the dogmatic reader sees its flaws.

Although the exegetical and the dogmatic reader are mirror opposites, they share some characteristics. Both selectively analyze the web to suit their prior beliefs. Neither engages fully with questions such as how web as media really differs from print, or with what confidence one can make encompassing assumptions about the quality of web resources.

A third type of reading is what Kaufmann calls the *agnostic* mode, and which we might equally characterize as the standard mode for engaging the web. In a fashion that is *a priori* appropriate in the information age, agnostic readers adopt a technical stance toward web quality. They acknowledge that there are both good and bad resources, and so develop schemes for finding good sites and separating one from the other. The agnostic mode entails attention to developing and finding better tools for accessing the web, to conducting effective web searches, and to evaluating the quality of web sites.

For example, the agnostic mode recognizes that the choice of search engine or search directory is a major factor in how effective a search may be relative to some task, e.g., to find information about a book it may be more effective to search the database of an online bookseller than to search the entire web. There are now many web sites that provide evaluative information about the relative performance of different search tools. These sites rate search tools, but often say less than they might about how a particular tool works and what assumptions it makes, assumptions that directly shape the collection of documents a search produces, and ultimately, one's ability to find information on the web.

In addition to seeking improved technologies for web searches, the agnostic reader seeks to improve search practices. For example, one rule is to understand the language for searches. Each search engine has its own syntax for specifying Boolean expressions. Usually, a phrase in quotes means to find that phrase exactly as written. Good searches depend upon expressing questions effectively in the appropriate search language. Another principle is to understand that search engines do not go out and look at every web page in existence in order to answer a query. Many web pages are hidden from the search engines behind organizational firewalls. Moreover, it would take far too long to examine every page as each query arises. Instead, the search engine builds a search index that enables fairly rapid searches. A consequence of this is that the user is not searching the web itself, but the index, and is thus dependent on the quality of the index, its organizational scheme, and how recently it has been updated. Among other things, this means that recent additions to the web may not appear as the result of a search.

Once a web site has been found the agnostic user applies a scheme for evaluating it, typically expressed as a series of questions, sometimes with point values to assign for each. The implication is that if a site scores well on the set of questions, it is trustworthy and useable, and if not, is best passed over. Some of these issues are primarily syntactic, relating to formal properties of the web site. These include ease of navigation, accessibility to users with physical impairments or slow network connections, copy-editing, or readability of the layout. Other issues are more at a semantic or content level, for example, understandability and relevance of images, acknowledgement of biases, or indications of the source of information. Finally, yet other issues are pragmatic in nature, such as judgements about the reputation of the author, the site's primary purpose, or the time of its writing. The agnostic reader of the web thus sees a technocratic solution to the problem of web variety: There are good sites, and there are bad sites. We just need to apply a formula to select our tools, find the sites, and judge among them.

The agnostic mode does not prejudge the value of the web, and it leads to some useful schemes for finding information. But in Heidegger's (1977) sense, it participates in or furthers, the technological enframing. That is, the resources of the web are interpreted as bits to be searched, retrieved, and processed, rather than as an opportunity for a dialogical relationship with others. The agnostic mode is thus a technological framework that reduces the web to a stockpile of resources.

There are two major problems with conceiving of web searches as simply looking up information. The first is the practical one that we are often frustrated. The answers may be "out there," but if we search inappropriately we get useless data back from the search. Interesting questions require some effort ahead of time to be formulated well. Moreover, good answers typically develop out of interaction with rich material and not as immediate prepared texts. All the general rules for searching suffer from the fact that the method of search depends on the problem being investigated.

This problem derives from a conception of searching the web as a straightforward process of looking up information. For certain purposes, that conception is quite appropriate. For example, if I want to find some general information about *Beowulf*, the oldest epic in English, I type "Beowulf" into my search engine and get 41,565 links to documents. There are complete texts of *Beowulf*, critical commentary, curriculum units, and much more.

But suppose I want to look deeper into these sites. I soon discover controversies regarding the Christian and pagan elements in *Beowulf*. For example,

She [Grendel's mother] was doomed to dwell in the dreary waters,  
cold sea-courses, since Cain cut down  
with edge of the sword his only brother,  
his father's offspring

There are disputes about the sources of these elements, the degree of integration, and the implications for medieval history. If I want to enter into the critical debates I find many sources. Some are university sites, others from libraries. Some are from creation scientists and many have no clear attribution.

I come across the site of a professor of English, Jonathan Glenn. I am inclined to believe Glenn's modulated claim: "The precise relationship between Grendel and the "kin of Cain" is unclear in the poem; that he is at least spiritually akin to Cain, however, is never in



doubt". The site is well-organized and has ample material, not only on Beowulf, but much of medieval literature. I am impressed by the care shown with the presentation, the detail of the documents, the citations of sources, and the opportunities for feedback. I am further encouraged by the fact that the site links to several other sites that appear useful and well-constructed. Thus it serves as what has been called a "hub" site. But as a novice in this area, I cannot be certain that this is the most credible starting point for my inquiry. Is this an authoritative site? Are there more credible sources, perhaps even espousing the same argument?

Despite these concerns, I am relieved in some ways. I do not see here troubling signs of racism or pornography that percolate throughout the web. My usual worry that the site may be superceded by a more recent one is partially allayed by the fact that the most recent update is less than one year old and the site appears to be well-maintained. Thus, although I do not know the author or much about the domain of study, I find the site to be worth further investigation. If I can believe what I read there, I have found a timely resource with all sorts of useful information and links for further study.

What I have discovered here is thus for my purposes a potentially useful source. But although I have spent some time examining it, I still have doubts about how to interpret what I read there. When I return to the massive list of documents that the search engine provided me, I feel a bit overwhelmed. Will I have to spend this much time on every document and still not know what to make of it all?

I have discovered something else. For certain kinds of queries, my search is far from a simple lookup. Instead, it appears to be part of the general process of inquiry, which is tentative and fallible. There is no absolute starting point, nor is there any sure way to reach the end, assuming such a point exists. I need to muster all my resources for critical thinking in order to navigate my way through the web, but in the process may reap enormous benefits.

This leads us to the second problem with conceiving of web searches as simply looking up information, that it obscures the web's potential importance for education or other life activities. The true value of the web lie in the way it can open up our questions. We ask one thing, but the web leads us to ask more questions and to become aware of how much we do not know. A recognition of these problems leads us to move from a conception of searching the web to find a piece of information to one in which a search is embedded in how we think: How can searching become not only "looking up," but truly productive inquiry?

## Dialectical Reading of the Web

We now turn to Kaufmann's fourth mode of reading, *dialectical*. Here, the word "dialectical" is used in a specific sense not derived directly from Plato, Kant, Hegel, or Marx. For Kaufmann, it is a way of capturing a "deep experience" of reading. He says that dialectical reading is distinguished by the fusion of three crucial elements. The first is called *Socratic*, "because it harks back to Socrates' dissatisfaction with the unexamined life" (p. 61). This element ask the dialectical reader to be open to the different culture manifested in a text. The second element is *dialogical*, a "deliberate exposure to alternatives" (p. 64). And the third is *historical-philosophical*, attempting to understand the work in its larger contexts.

Kaufmann's use of the term dialectical is perhaps closer to Dewey and Bentley's term

*transaction*. As does Kaufmann, they reject both naive realism, which posits events independent of the perceiver, and subjectivism, which has no way of accounting for common knowledge. Instead, they adopt a constructivist theory of meaning. Knowing is then a process in which the individual learns through reflection on ordinary experience and through communication with others.

In both Kaufmann's dialectical mode and the transactional theory of knowing, each encounter with a phenomenon is a unique event, neither wholly determined by external processes nor independent of them. The meaning of a web site is then neither a superior representation, as it might be viewed in the exegetical mode nor an opportunity for quick dismissal, as in the dogmatic mode. Nor is it simply a text to be selected, analyzed, measured, and categorized, as the agnostic mode would have it. Instead, the dialectical observer enters into a relationship with the text in which there is an openness to new values and ways of making meaning. The result is a process of accepting discomfort, examining alternatives, and searching for new understandings. Thus, meaning is not static, but constructed out of the evolving activities of thinking and doing.

Furthermore, because no web document stands alone, but is interlinked with the entire web, the meaning of any web page is ultimately dependent upon its relationships with other pages. For example, when I visited the Glenn site on *Beowulf*, I began to build my understanding of that site in terms of its relationship to other sites on *Beowulf*, medieval literature, and in the final analysis, all other sites on the web. This implies a second-order transaction in which reading a web page entails reading the matrix of texts in which it is embedded.

The dialectical reader must possess coding, semantic, and pragmatic competence. But instead of just applying a set of rules for assessing web sites, the dialectical mode entails reading with a critical eye. This means engaging with the text in a way that goes beyond seeing it as an information resource, and instead permits a relationship with the text. That relationship can include reading what is not said and even reading against the text. On the web, this means opening oneself up to different ways of interpreting the world and seeking to understand the political, social, and historical dimensions of web discourse.

Finally, the dialectical reader must see a specific web page in relation to the web as a whole. This means not only the other documents collected there, but the social practices associated with the web--what genres and textual conventions are invoked, who controls the technologies, and whose interests are served by particular communications. As Burbules and Callister (in press) point out, whether and how one has access to the web is closely tied to one's ability to ascertain credibility. Critical understanding requires this level of reflection on the uses of the web as well as its formal properties.

Under the dialectical view, searching is the journey, not just the arrival. That is, one can never confidently say that the web has been fully searched and the answer found. This suggests an alternative to the common practice of asking students to cite one library source and one online source for an essay. Activities such as that presuppose an order to the web that simultaneously over- and under-state its value. Instead, we could turn the web's unruliness into a virtue. We might say: "Use the web to find the answer to such-and-such question. Now, report on three things you learned that you had never imagined before you did that search". Alternatively, we might ask students to find some information on the web, and then, its opposite. That contradiction could then initiate an inquiry into the topic and the ways that authors write about it.

Although Kaufmann's analysis of reading is framed within a larger work on the future of the humanities, his taxonomy extends to the diverse genres of the web, such as scientific texts, databases, news articles, images, and interactive software. In fact, the need for dialectical reading may be even more critical for other genres. Consider the case of online encyclopedias. Prior to the web, one might have argued that a recognized encyclopedia, with its selection of experts as authors, its review board, its wide readership, and its unified approach was legitimately authoritative. Today, there are many digital encyclopedias, including both traditional collections now in online or disk forms and new electronic-only encyclopedias. Reading these competing online accounts of knowledge calls for both an openness to new ways of thinking and a concerted effort at Socratic, dialogical, and historical-philosophical understanding.

## Conclusion

The issues for reading posed by the web are not new. Indeed, as I have argued, a useful construct for understanding the web is Kaufmann's modes of reading from twenty years ago, which itself derives from a long tradition in hermeneutics and humanistic inquiry. There are direct parallel's, for instance, between the dialectical mode and Gadamer's definition of the task of hermeneutics "a the bridging of personal or historical distance between minds" (1976, p. 95).

Kaufmann closes his essay with the warning that "neither television nor computers can save the humanities if the art of reading texts is lost" (p. 83). If anything, a close analysis of the processes of web reading heightens the need for critical inquiry in its traditional senses. Multimedia, hypertext, and the rapid change on the web do not preclude the need for dialectical reading, but instead extend it in new directions. Viewed this way, the principles for search and evaluation that derive from the agnostic mode are useful tools. They acknowledge the particular features of the new discourse genre we call the web, but they are only in service to the larger scope of dialectical inquiry.

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