Technology and the Politics of Choice:

Information Literacy, Critical Thinking, and Intellectual Freedom

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Preface

Text of remarks prepared for keynote speech (some passages omitted from speech due to time constraints; opening disclaimer not reproduced below reassuring conference delegates that neither my appearance at the conference nor my remarks should be construed as collusion or incitement in present circumstances). This text is informal; for a more extensive analysis with fully documented references, please refer to articles listed at the end.

Introductory Remarks

I am delighted to be here to talk about issues of Internet access and the politics of choice in the context of public education. I am also very interested to see a number of related and complementary sessions in the conference program -- Web Awareness, Internet safety and cybercrime, critical examinations of technology, and an overview of the ATA position paper "Technology and Education"; and in the conference packages, the Canadian government booklet "Illegal and Offensive Content on the Internet: The Canadian Strategy to Promote Safe, Wise and Responsible Internet Use", published by Industry Canada.

Social and Political Response to New Technology

When we look back over the past 500 years, or more, every new communications technology -- from the printed book, to motion pictures and song recordings, video games, and now the World Wide Web -- has initially inspired a period of exaggerated reaction, ranging from

euphoria to fear.

At the one end extreme, some people take for granted that "If it's technology it must be good and it must be done"! -- believing that whatever it is will lead quickly and smoothly to world peace, prosperity, and comfort for all. Today, such people see the Internet in this optimistic light -- as a highly decentralized medium in which users have effective control, and hence as a force for pluralism, freedom, and democracy around the world.

However, recent events around the world suggest another scenario may be developing, motivated by deeply-felt concerns over a host of negative consequences of Internet access for society, values, and behaviour, and in particular for children and teenagers. These critics fear unregulated access and unsupervised choice, and see solutions in more state regulation and less individual freedom.

In this scenario, politicians and lobby groups have begun to use the power of the law and the stealth of computer technology itself to gain greater control over expressive content on the Internet. In the face of political and social resolve, this scenario shows the Internet to be very vulnerable and fragile.

All told, at least 59 nations now limit online freedom of expression, in one way or another. (Ariana Cha, "Rise of Internet borders prompts fears for web's future", Wash. Post Jan. 4/02)

Some countries, for example, monitor Internet content, particularly political and religious. Some require that Internet service providers and users be registered with the police. Some require that service providers work through gateways controlled and monitored by the state. In a few jurisdictions, there is only one service provider for the entire country! And in some, web sites are not normally available to individuals at all.

I am glad to be able to say that Canada -- unlike the U.S. -- has not rushed into legislative solutions to control Internet content. Canadian government politicians and officials have endorsed the concept of "effective self-regulation" as the Canadian strategy to promote responsible Internet use ("Illegal and Offensive Content on the Internet: The Canadian Strategy to Promote Safe, Wise and Responsible Internet Use" - Industry Canada, 2001 - also at http://web.archive.org/web/20060405052850/http://www.connect.gc.ca/cyberwise)

In between these extremes are critics concerned about the unintended effects and consequences of various technologies on society and social relations. Canadian physicist and author Ursula Franklin has written extensively about the implications of what she has critiqued as "prescriptive technologies."

Prescriptive technologies are production oriented, privileging efficiency and cost above people and nature, relying on the fragmentation of human work and other activities into discrete, repeatable sequences. These technological systems depend on a complex, large-scale, and amorphous web of business and government infrastructures and investments. They succeed through an enormous increase in external control and compliance, conformity and management.

Production models and their enabling technologies have become the dominant form of organization in contemporary work, government, and public institutions, and to a lesser extent, so far, in education. Over the past 3 centuries, these technologies have lead to dramatic changes in the locus of power, from people to machines -- and their ascendance has correspondingly tended to marginalize human values, social interactions, social learning, and community building.

The technology dream of a world of work without workers, of government without citizens or governance, of schools without teachers, and of libraries and information access without librarians, is a world where people are routinely seen as sources of problems -- and technologies, invariably, as sources of solutions. Technology is no longer merely a tool worked by human hands to improve our quality of life. Rather, technology now threatens to drive values.

In the classroom, for example, the production model of education emphasizes device-assisted, individually-paced acquisition of information to pass tests. With it, machines displace teachers, and the vital role of social learning is overlooked, underestimated, and eventually devalued. The social cohesion produced by teaching and learning together thus weakens, and the social settings for these implicit learning opportunities thus disappear.

Dr. Franklin's critique of new technology urges that we ask not only about the promises being made for it, but more importantly, that we question what the new technology will eliminate or even prevent. In considering benefits and costs, who benefits and who pays the costs?

Theoretical Perspectives from Library and Information Studies

My presentation this morning will address one such prescriptive technology -- Internet filtering software -- which is also known to its critics as "censorware", and more recently has been described as "electronic book banning" or even burning.

My lens is library and information studies, and my theme is that the attempt to regulate and control Internet access through filtering products leads to unintended consequences for education and learning. Among these consequences are young people's understandings and practices of personal responsibility and choice**,** information and media literacy, critical thinking, and intellectual freedom. My concern is that uncritical reliance on technological solutions such as filtering can put educational goals at risk.

Moreover, filtering may put schools and school boards at greater risk -- rather than minimizing their burden. Contrary to the overly cautious legal advice that might have been received, filters may actually increase the institutional burden, because the resort to filtering as a solution could be construed as an admission of institutional responsibility, thus shifting the burden away from students and parents.

Since I began following this topic almost a decade ago (and it's overwhelming trying to keep up with the explosion of information about it), rapidly growing Internet use has triggered equally growing concern about controversial images and ideas on the Internet, particularly in the U.S. in the realm of sexually explicit text and images, or so-called "pornography" -- a term I rarely use, by the way, because of its profound subjectivity and ambiguity -- and, as many of you know, it

is a term that has no legal meaning or standing in either country.

audience: What percentage of the Internet constitutes sexually explicit web sites? -- How many would say 10% or more? 50%?

Well, in spite of inaccurate media messages to the contrary, the most reliable estimates these days indicate that only about 1.5-3% of web sites are sexually explicit -- and many of these are in any event not illegal in the meaning of Canadian and American criminal law (Consumer Reports March 01 (2%); OCLC 2001, 74,000 adult websites or 2.4%)

So the debate over filtering is not about illegal content, such as child pornography. One of the myths that must be confronted is that children run a high risk of accidental exposure to objectionable images and information on the Internet. The truth is that children, at least in North America, have a higher chance of seeing such materials at the supermarket, in book stores, in magazines and newspapers, at the cinema, or on television – clearly of course, not hard-core sexually explicit materials, but certainly many other images and information that Internet filters are actively engaged in censoring.

I suggest to you that uncritical reliance on Internet filtering creates an urgent need for a more theoretically grounded perspective that takes account of the very essence of being human -- the expressive communication that we call "language" -- and its relationship to educational and cultural goals.

Some insights into language come from 3 areas of foundational knowledge in library and information studies: intellectual freedom; indexing theory for information retrieval; and reader response theory. I am pleased to have the opportunity to share these insights with the larger constituency of educators in all of your specialized professional roles.

In a nutshell, what these bodies of thought reveal is a whole set of intractable barriers that render perfect control over expressive content in any communications medium an impossible idea and ideal. These barriers issue from the unsolvable problems of ambiguity in language, indexing, and reading. The reality is, then, that the locus of the problems associated with Internet content is social and political, not "technological".

In the cyberspace universe of instant access to information and images of all kinds, how then should educators respond to these trends and controversies? How can they find a reasonable balance between the sometimes conflicting goals of institutional responsibility, community standards, parental concerns, and young people's educational and developmental interests and needs?

In the limited time available, I plan to focus my remarks on just one of the 3 bodies of thought in library and information studies that I mentioned above -- the relevance of indexing and retrieval theory to these questions.

But I also want to suggest another train of thought, following Ursula Franklin, that educators should consider:

- What do filters diminish in the educational setting -- or prevent altogether?

- What is lost by their introduction into this environment?

- In considering filtering benefits and costs: Whose benefits? Whose costs?

Filtering products

Before I do that, I'll give you a brief overview of the products themselves and how they work, which will likely be a review for many of you. I'd like to start by asking you some questions to help me understand your familiarity and experience with this topic:

audience: Could I have a show of hands of….

- How many of you work in schools using filtering? How many not?

- Of those in schools with filters, how many of you were consulted beforehand, before the filtering decision was made?

- And were you consulted on the choice of filter?

- Have how many of you have override privileges?

- Has anyone worked in a school that had filters -- and then took them out?

A study by Ann Curry and Ken Haycock in 2000 found that school authorities have routinely adopted filtering products without consultation with educators (School Library Journal 2001; Bowker 2001). Considering the far-reaching educational and cultural effects of this technology, I find that situation to be troubling.

Over the past decade, a bewildering array of software products has appeared on the U.S. and Canadian markets that claim to be able to either "filter" or "rate" Internet-based content. Four or 5 years ago there were about 40 products on the market in the U.S. alone. Two or 3 years ago it had doubled to 80, undoubtedly more now. One estimate is that the worldwide corporate filtering market is expected to grow to $500 million by 2004. But some companies such as the manufacturer of BESS are currently reported to be in financial difficulty.

Among the products most commonly used in school libraries are:

BESS

SurfWatch

Cyber Patrol

WebSENSE

I-Gear

X-Stop

Screendoor

Other filters are:

AOL Parental Controls

Airswitch

Border Manager

Clean Net

ClickSafe

Cyber Sentinel

CYBERSitter

CyberSnoop

Family Click

Foolproof

Internet Guard Dog

KidSafe

Library Guardian

NetSmart

Net Nanny

Net Shepherd

NetSweeper

Norton Internet Security

OnGuard

Parental Discretion

PORNsweeper

Safe Server

Safe Surf

Searchopolis

Smart Filter

SurfControl

Tattle-Tale

We-Blocker

WebChaperone

WhizGuard

Winu

audience: Which do you have in your school?

BESS claims to dominate the school market. But CyberPatrol, which has partnerships with Microsoft, Netscape, America Online, and other corporations, says it has (or at least, used to say it had) 85 percent of the worldwide filtering market in general (Schneider 1997b, 146).

But right at the start, we confront the first problem with these products -- at least in the home setting -- installation! -- demonstrating the generation gap that still exists between net-smart young people and their parents.

Speaking of home settings, the Industry Canada publication I referred to earlier states that 17% -- and I want to emphasize "only" 17% -- of Canadians in a recent survey by Web Awareness said they used a home filter.

These products offer a rather bewildering array of software options for controlling and suppressing expressive content on the Internet. There are 5 basic approaches:

- "bad word", "bad phrase", even "bad syllable" and "bad character" stoplists -- keyword searching

- "bad site" stoplists, identified through keyword stoplists -- the opposite approach is also used -- "whitelists" -- which provide access to only those sites that are selected and tagged

- "bad topic" stoplists, which organize objectionable sites into broad subject categories created by the product owner

    - some products have only 3 or 4 groupings in their subject list, while other have up to 30 or 40 -- but none of them have the same list, and none of them use standard classification systems from LIS

    - as well, it should be noted that most subject lists reach far beyond sex and violence, reading like "a laundry list of human concerns, with some venal sins thrown in" (Schneider 1998, 37) -- and showing the ideological biases of product creators

    - this variation is reflected in the number and range of Internet sites that are blocked, with some products reporting as few as 15,000 and others, hundreds of thousands (as many as 138,000 sites (Oder 1997, 41).

    - one product has, for example, in addition to four categories for sex and violence (violence/profanity, partial nudity, full nudity, and sexual acts), eight other categories, among which are "gross depictions", "intolerance", "satanic/cult", "drugs/drug culture", "militant/extremist", "sex education", "questionable/illegal and gambling", and "alcohol and tobacco".

- content rating systems, which use the technology of PICS (Platform for Internet Content Selection) to block access to sites matching certain specifications -- could also block all unrated sites -- ratings are assigned by third party reviewers, human or robot, or by voluntarily by site owners on the basis of a self-administered ratings questionnaire;

- "bad service" lists, which block access to services such as telnet, games, e-mail, chat rooms, and newsgroups.

It is important to understand that, to achieve their goals of keyword, site, and subject

blocking, filtering products rely almost exclusively on automation -- not on human eyes and brains -- and certainly not on trained indexers and cataloguers! Software robots -- electronic search engines referred to as web spiders or web crawlers -- are used to search for and identify unacceptable Internet content.

Some products -- though not all -- also employ a small number of staff to review sites -- but obviously they can only review a very small proportion of sites identified by the software robots (Censorware Project 1997). In earlier days, BESS boasted of its "Human Review Advantage," claiming to have, variously, between 40 and 100 human reviewers -- surely a trivial boast in cyberspace -- but even this complement was recently reduced to 10.

CyberPatrol describes its robot searching mechanism this way:

> Cyber Spyder visits the sites and creates a report including 24 characters before and 25 characters after each occurrence of the keywords used in a particular search. The researchers [?] start by reviewing this report. If necessary, the sites are visited and viewed by a human being before being added to the CyberNOT list.

Hence, it is clear that the search process would be much more accurately described as pattern or character or string recognition, and, to be even more precise, as exact-match character recognition.

Browsing, searching, surfing, navigating, analyzing, reviewing -- these processes have been appropriated from the realm of human activities to conjure up the image of human-like and human-equivalent machine processes. But this language is essentially metaphorical, if not deliberately deceptive.

Nonetheless, products routinely exaggerate and mislead. One describes its software as a "state of the art, context-sensitive, phrase filtering" and claims it is "90 percent effective without even knowing where the objectionable material is" (CyberSitter 1997). And others boast of "advanced AI" and "second generation filtering".

Besides a propensity for advertising rhetoric, filters share many other common characteristics: text-based; unilateral blocking and rating; secret stoplists; cost; lack of staff expertise; underestimation of task complexity; idiosyncratic content category schemes; pervasive ideological bias; and indexing inconsistency.

1) First of all, none of them block graphics and images -- text-based.

2) None of them voluntarily tell site owners that a site has been blocked or rated -- only learn by accident.

3) Most if not all products refuse to permit customers access to their pre-programmed stoplists of words, phrases, sites, and topics deemed objectionable -- indeed, regard their stoplists as highly valuable commercial trade secrets (Schneider 1997b).

- The question of how all of this secrecy protects schools and educators, children, their parents, and other consumers must be considered: Why would disclosure of ingredients on food products, a well-established consumer practice, be more important than disclosure on a "mind product"? Why would educators accept lower – or non-existent – standards of quality assurance on filtering products? Why would educators not demand the most rigorous levels of consumer product testing for filtering software claims?

- One wonders whether schools or parents would buy unlabelled cans of soup or unidentified vegetables hidden in a box. (Admittedly, full disclosure of key nutrients in packaged food, mandatory nutritional labeling, will only become Canadian law for the first time this summer, following the U.S. in 1994.)

4) All of them cost money, or something else -- forever!

-all are commercial products, and pricing policies vary widely -- some such as BESS offered the product free to schools if Internet advertising was allowed, but BESS has recently converted to direct charging.

5) None of the products is created through the expertise of credentialed librarians and indexers.

- instead, a few products employ a small number of "Internet and computer-savy" young people out of high school at minimum wage -- others rely on volunteers whose educational qualifications and ideological motivations are unknown.

- what is also common about staffing is that nothing is publicly known about quality assurance controls on the work of the reviewers, or about what sort of indexing consistency testing is done to ensure accuracy in the resulting product.

- the strong suspicion is there is no quality testing of any kind -- and that instead product owners rely on complaints to correct their errors -- if they are willing at all, which some are not unless tremendous pressure is exerted on them.

6) Lack of staffing expertise is one thing. Simple shortages of staff is still another basic concern: Filtering owners also share in common that they underestimate, to the public, the enormous complexity of the task they undertake.

- indeed, the magnitude of the task is formidable -- as of Dec 2001, Google alone indexed 2 billion! web pages, and was also re-indexing several million pages on a daily basis to maintain currency.

- however, none of the filtering products has this kind of capability. BESS, for example, accounts for only 48 million web pages -- hence it's clear that the phenomenal size and growth of the Web leaves product owners shooting at moving targets -- speeding targets, actually.

7) None of them uses standard library classification schemes, resulting in idiosyncratic, arbitrary

content category schemes, and revealing unprecedented subjectivity in evaluating and categorizing Internet content.

8) Most products reflect pervasive ideological bias in the ideas they target and in the filtering categories they have constructed.

- contrary to public perception that filters only target hard-core illegal pornography and hate propaganda, their tentacles reach far beyond these narrow limits.

9) Finally, there is the problem of indexer and indexing consistency in identifying and categorizing objectionable expressive content on the Internet.

Indexing and Retrieval Theory

And this, the dynamics of access to expressive content -- that is, to recorded human language -- brings us immediately to indexing and retrieval theory in LIS, and its implications for Internet filtering and rating.

Human language is by its very nature ambiguous, nuanced, imprecise, inconsistent, constantly changing, and culture specific.

It follows, then, that indexing operations to describe and represent recorded language -- texts -- are at least as ambiguous, as fluid, as susceptible to nuance, as imprecise, as inconsistent, as subject to cultural variation, and as susceptible to change over time. After all, indexing operations are language operations bounded by language itself.

So, even though the purpose of Internet filtering software is to be able to control and prohibit access to certain information and images rather than to facilitate their access, the intellectual operations involved in identifying and describing expressive content for targeting are similar to those employed in conventional information retrieval systems -- as are the problems and the challenges -- specifically, the problems and challenges are similar to those involved in free-text searching in a full-text environment.

The goal of indexing in conventional retrieval systems is to provide a systematic guide to the contents of information records. More generally, the goal is to name information, to gather together ideas into categories so that a searcher can identify everything on a subject.

In order to do this, the indexer must decide:

- first, what concept or characteristic is to be represented,

- then, what name to give to the concept or characteristic, and

- finally, how to organize the designated names (descriptors) into a searchable database. As you can see, by the way, this is labour-intensive stuff!

These intellectual operations for representing subjects in an indexing system pose immediate problems for effective identification, control, and retrieval of information -- and of course, for blocking it too.

The problems concerned are the indexing concepts of: aboutness; specificity; consistency; exhaustivity; relevance; and universality.

- Aboutness is the central problem of indexing: how does one decide what a text is about? How does one determine context?

- Specificity is the related but opposite problem: how does one decide which, and how many, aspects of a text will be represented, and with which terms?

- Consistency is another problem, because synonymous terminology must be identified and controlled, and hence the need, in part, for authority control

- Finally, the assumption of universality challenges all indexing operations. Universality is the pervasive--and mistaken--belief that there is a one-to-one correspondence, an absolute link, between concept and descriptor that transcends not only culture, ideology, and time, but age and reading differences as well. Universality assumes the existence of one and only one perspective in a given text.

I have heard it said that all this is "just library theory" -- but that's the attitude that created the vast dump that the Internet now personifies. Somebody said not long ago that the Internet is like a library run by drunken librarians -- but let me tell you this is a terrible insult -- those librarians wouldn't be drunk -- they would have to be brain dead to run a library like that!

A good example of the indexer's problems of both "aboutness" and "specificity" is illustrated by a cartoon of a web search for the Queen that ends up at an S&M site. It also illustrates the complexities of exact-match character recognition working independently of context -- and concepts.

Perhaps most frequently blocked by filtering products is anything that remotely concerns sex. The most well known example was the blocking several years ago of "breast" -- resulting in blocks on breast cancer sites and recipes for chicken.

But there are thousands if not millions of other examples:

- a Star Trek newsgroup about Jean-Luc Picard (alt.sexy.bald.captain)

- the NASA Mars exploration site (.marsexpl.)

- poet Ann Sexton

- couple

- Super Bowl XXXI site

- a hockey site because of news that a player had been sidelined due to a groin injury (Newsletter on Intellectual Freedom 1997, 29).

Lest you think this is just an American problem, here is a sample of Canadian sites found in a recent study to be blocked by various filtering products:

- Lord Strathcona Regiment Museum (Calgary)

- Adbusters (Vancouver)

- Southern Alberta Fly Fishing Outfitters

- AIDS Vancouver Island

- National Capital FreeNet (Ottawa)

- Immigration and Refugee Board (Ottawa)

- Schools of Nunavut

- Royal Canadian Society of the Sacred Heart

- Toronto Maple Leafs

- Anti-Racist Action Group (Toronto)

Many products also block any reference to homosexuality, lesbianism, and bisexuality. Using this approach, one product prevented access to the entire library web site of the Archie R. Dykes Medical Library! Why? - "dyke" (Chelton 1997)

But most products do not focus exclusively on sex. Many have strong political and ideological motivations, as I've mentioned. Some block all feminist sites such as NOW, the National Organization for Women, and feminist newsgroups, and other sites such as those of Planned Parenthood and Amnesty International, sites about AIDS/HIV and other health issues, marijuana, and human rights.

In one Canadian city where all schools use filtering products, a teacher-librarian there concluded that none of the following topics could be searched effectively on the school's computer workstations for classroom assignments:

• suicide prevention

• violence in the media

• controversy over tobacco and alcohol advertising

• drug abuse

• gender issues

• stereotyping

• child neglect

• rape

• race relations

• fetal alcohol syndrome

• Martian chronicles

• prostitution

• first aid

• Pan Am Games

• gay youth

• sexual harassment

• eating disorders

• death

• pain

• animal rights

• depression

• sexually transmitted diseases.

Basically, this is just about everything that a typical North American teenager is interested in!

By the way, speaking of teenagers, does anyone ask students -- especially older students -- what they think of school filters? Over and over I have been told that students detest them, are frustrated by them, feel insulted by them, have the technology skills to subvert them, and

consequently get around them anyway.

There is a long tradition of research in LIS that shows even the best indexing is imperfect. Consistency among indexers in assigning index terms is a well-known problem. Studies of inter-indexer consistency document enormous variation in the terms that indexers use to represent the subject content of a text.

In light of this knowledge, why would filtering products -- with their electronic robot searching software -- achieve the much higher rates of indexing consistency, exhaustivity, specificity, and certainty that their advertising rhetoric claims?

The simple answer is that they don't! -- Research shows that not only do Internet filters fail to block as promised, but they also "overblock" -- preventing access to thousands of sites that have no "objectionable" content even by the most conservative standards.

What accounts for these serious deficiencies in product performance? The answers are found in the essential ambiguities of language itself, and in the challenges that language presents for both free text searching and subject identification.

Every language has a multitude of synonyms and antonyms and euphemisms, puns and double entendres. English has many words with multiple meanings, homographs or homonyms, such as "queen" and "curse".

And many homographs with a sexual meaning also have at least one meaning that is non-sexual in nature, words such as "gay", "cock", and "beaver" (and of course I am only saying these aloud in their innocent forms, you understand!).

In a reality check back in December 2000, former filtering advocate and the U.S. House Majority leader Richard "Dick" Armey found his own web site was being blocked! Mr Armey now opposes filtering.

And 2001 Congressional candidate Jeffrey Pollock's campaign web site was blocked because the phrase "topless dancing" was used -- even though it was in a metaphorical usage (Carrie Bickner, A List Apart, April 6, 2001) Mr. Pollock is also reported to have become a filtering opponent.

I wonder what the filters do with the Barenaked Ladies -- at one time banned by a former Toronto mayor from performing there solely because of their name -- just like the term recognition techniques employed by filtering products! And what would the filters do with a headline in the Edmonton Journal I saw last year, "Happy Hookers", an article about a group of local women who hook rugs!

Indeed, in one recent test of filters, "The Strippers" web site was blocked, a site about furniture refinishing. And another one about event planning, "Red Hot Mama Event Productions", was also blocked.

We also witness new terms invented every day, many the latest slang to communicate sexual innuendo. Examples abound: "rock and roll", which used to be African American slang for sexual intercourse; and who could forget "fuddle-duddle", bequeathed to us by the late Pierre Trudeau; Bobbitt; and more recently the plethora of terms for the scandal surrounding Bill Clinton -- Zippergate, Fornigate, and Tailgate.

We see older terms twisted into new meanings, such as "queer" being reclaimed by gays and lesbians, "political correctness" being used to discredit liberal ideas, "demographics" being used as code in the U.S. for race and class, and "family values" to marginalize a whole host of non-conforming ideas and behaviours". By the way, have you ever noticed that unpopular minorities always have "agendas" while their critics always have "values"?!

But we also witness terms going out of fashion, such as "French letter" for "condom", "hooch" for alcohol, and "malingerer" for homosexual.

To sum up, "censorproofing" the Internet -- sanitizing and making it safe from potentially controversial content -- is doomed to failure for many reasons:

- new sites every day -- as many as 7 million new Web pages per day, some 50-80% originating in the U.S. alone -- and new additions to already reviewed sites

- new terms added to language -- especially slang for sex and genitalia

- new issues--new subjects; old subjects

- region or culture-specific terms -- even among all English speaking nations -- for example, "randy", "the full Monty", and "shag" from England - incidentally highly offensive in GB, Jacques Parizeau's "money and ethnics" rant, a coded reference to Montreal Jews

- variable interpretations and perceptions -- of offensiveness, indecency, harmfulness, objectionable, degrading, obscene, morally dangerous, community standards -- and pornographic

- variable perceptions of age appropriateness -- and the failure to accommodate the vast diversity of needs and the enormous variation in young people's emotional development and psychological maturity -- not only at different ages but at the same age as well -- moreover, young readers tend to "read up" in fiction, and they also read across different reading levels

  - related is the "one size fits all" syndrome - treats older students the same as younger ones - CyberPatrol states it evaluates sites for inclusion in its blocking list by considering "the effect of the site on a typical 12 year old searching unaccompanied" (1997)

  - since teachers, teacher librarians, and everybody else in the school is subjected to the same filter, does that mean we're all 12 year olds?

- imprecise and variable descriptor terms because of synonyms, puns, homographs, multiple layers of meanings, inherent category problems

- sites and text in languages other than English, and foreign language words adopted into English

  - or how about this book title, "The Complete Merde! The REAL French You Were Never Taught in School" by Geneviève Edis (1984)?!

- culture-specific values and priorities, for example, compare the marked differences in Canadian, American, and European attitudes to sex, nudity, violence, gun ownership, racism and multiculturalism, to name a few.

- variations in language styles related to the purpose of communication: for example, the language used to describe sex is explicit language; but the language used to describe hate is usually very coded -- for example, "money and ethnics", "demographics", which has become code for "race and class" in the U.S. How violence fits into this I am still working on.

Conclusions

The lessons of indexing theory for Internet filtering and rating systems present, in my view, a worst case scenario in the organization and control of information, and in the modeling of what education and debate mean for democratic citizenship.

In response to criticisms of software imperfection, products owners and their apologists are quick to argue that current technology is "good though not perfect", "rapidly improving", "reasonably accurate", "extremely effective but not foolproof", that "some protection is better than none," that "80% is better than nothing" (WebSense - Oder 1997, 41).

We need to ask if smoke detectors in our schools, homes, and offices that worked 80% of the time would indeed be better than nothing -- especially when the timing of the 80% operational phase is unknown and unknowable. Moreover, to extend the analogy, we might ask how acceptable such smoke detectors would be if they not only reacted to smoke but also to incense, garlic, sweat, perfume, or other unpredicted and unpredictable triggers.

Yet the very names of the software products -- nanny, patrol, shepherd, sitter, watch -- conjure up images of unqualified performance, and typical product claims are couched in the rhetoric of "child protection" and "safeguarding kids", and product advocates refer to filters as "technology protection measures" (CIPA).

But instead of fulfilling these vague, feel-good advertising promises, what the new products offer is illusion -- illusion that comes with a high price tag. In fact, there are many prices to be paid: a false sense of security and overconfidence; intellectual freedom and respect for diversity; critical thinking, media and information literacy skills; debate and democracy.

The first price concerns underblocking and overconfidence, a false sense of security that all "offensive" -- or "objectionable" or "harmful" -- sites are being blocked, when in fact no software promises 100% in the fine print in its contractual documents.

The flip side is overblocking and overconfidence, a false sense of confidence that all relevant information is being retrieved when a filtered search is conducted.

Another price is intellectual freedom and respect for intellectual diversity, for the many voices in the community.

If I told you that as of 6 o'clock this morning, your next-door neighbour would be assuming responsibility from then on, for telling you and your children what you, and they, could, and could not read and view, would you be upset? What if it was a neighbour down the street? One you don't like? Or a stranger across town you don't even know and have never laid eyes on? Or a stranger in another country with unknown cultural values and beliefs?

If these scenarios seem ludicrous or repugnant, how much worse is it to turn children's value systems -- our value systems -- over to foreign software vendors and their machines? (Crosslin 1998, 52)

That's the situation with filters. Blocking and rating decisions are made by unknown third parties with unknown qualifications and unknown ideological agendas. Their crude, paternalistic strategies should serve to remind us that authority control keeps some voices in our communities out -- just as easily as it lets others in. Outsourcing moral authority to faceless and anonymous Internet guardians is no alternative to family responsibility, to guidance and supervision by educators, and to personal commitment to individual critical awareness.

There are other prices of equal concern to educators: critical thinking, media literacy, and information literacy skills. While computers are a tool for reading and literacy, the same can not be said for filters. Filtering is not a tool for critical thinking. Rather, filtering short-circuits critical thinking and impedes its development.

Filtering products do not help young people learn how to assume intellectual and moral responsibilities for adulthood. They do not help them learn how to make independent critical judgments, how to deconstruct media images and messages, how to evaluate information, how to live vicariously through story rather than dangerously through experience.

How will young people learn to recognize irrational hatred, racial intolerance, and coded language if they do not examine them, study them, dissect them? Studying hate propaganda sites on the Internet is a much different intellectual and educational process than hurling racial slurs.

How will educators teach media and critical thinking skills in filtered school environments so that young people can function responsibly in an unfiltered world outside of school?

Canadian novelist Margaret Laurence wrote that she would not advocate the banning of even such an evil and obscene book as Adolf Hitler's Mein Kampf. "I think we must learn to

recognize our enemies, to counter inhuman ranting with human and humane beliefs and practices." (Dance on the Earth: A Memoir, 267). And Martin Luther King Jr. said, "Darkness cannot drive out darkness; only light can do that. Hate cannot drive out hate; only love can do that."

In their operations, filters ignore context, dissecting texts into selected parts on the basis of a pre-determined corporate value system. Integrity of the text and respect for the reader are ignored in favour of a single, uniform standard of "safe" words and "safe" ideas. When context is sacrificed in this way, one four-letter word becomes more important than 400 pages of story.

This is "snippet censorship," the practice of basing judgment of a literary work on excerpts, lists of offensive words or phrases, and scenes lifted out of context, a term coined after a reference in a letter to teachers written by Margaret Laurence, in reaction to the controversy in some Ontario schools over *The Diviners*, when she complained about people reading "just snippets here and there" (letter from Margaret Laurence 1978; Carver 1997).

Another price of the filtering solution is an equal if not greater threat to learning and democracy in the long run: the loud and clear message to young people that the right response to bad ideas is censorship, not debate -- not that bad ideas should be examined and driven out by better ideas, but that they should be silenced, that there is only one view, one truth, one choice.

Another message to older students comes through loud and clear: Trust machines, not us. Is this the pedagogical goal? Is this the right message to send to young adults who are old enough at 16 to drive a car but not search the Internet? Old enough at 16 to join the Canadian military but not search the Internet? Old enough at 14 (or even 12!) to baby sit but not search the Internet? Old enough at 14 to legally have sex but not search the Internet? ? Old enough at 14? or 12? to read the daily newspaper by themselves but not search the Internet?

Personally, I like the spirit of trust and responsibility captured in the wording on a sign at our University swimming pool about Pool Safety Regulations:

> Children under the age of 10 years must be within arms reach of an individual 16 years or older during recreational swim times.

I would suggest that the unintended consequences of the filtering solution are to diminish debate, to promote oversimplification of ideas and issues, to encourage conformity, compliance, and complacency, and thereby to foster authoritarian attitudes and undermine the practice of citizenship.

If you think I exaggerate, you should know that some product owners are using their own filter technology to silence criticism and suppress public debate altogether about the value and effectiveness of filtering. In retaliation for criticism on the Internet, CyberPatrol, CyberSitter, and BESS among others have gone to extreme lengths to silence critics by blocking sites information as the Censorware report entitled "Passing Porn, Banning the Bible", the Mid-Atlantic Infoshop site, the phrase "Don't Buy CYBERsitter!", the site for the webzine The Ethical Spectacle, and the web pages for the book *Sex, Laws, and Cyberspace* by Jonathan Wallace and Mark Mangan

(1996).

Perhaps my concerns are exaggerated, but I worry that we are in general too complacent in our Canadian freedoms. And I ask you to remember that those freedoms have been grievously breached from time to time throughout our history.

I support an educational strategy that would focus on developing critical awareness of the limitations of the Internet, of the need for school and parental supervision, of the need for personal responsibility and judgment.

In this context, I am pleased that the ATA has recently published a position paper entitled "Technology and Education", which includes a section about "Effective Use of the Internet", outlining the following principles:

> As a research tool, the Internet offers students access to vast new material. However, this raises some important concerns. Unlike text-based resources, this material is not refereed or censored, creating a tension between free speech and offensive content. Because of this, teachers will need to focus more than ever on the exercise of critical judgment and address the need for media awareness. Students must know how to respond to aggressive advertising, to racist and offensive content and to anonymous strangers they may meet on the Net. Teachers must teach students how to become their own filters, rather than simply relying on technological software filters. All students using the Internet must be supervised by a teacher, and younger students should only use Intranet or sites which a teacher has previewed. (URL: http://www.teachers.ab.ca/policy/papers.cfm?p_ID=89)

If the analysis presented in this paper is accurate, then I would suggest it is irresponsible of institutions such as schools and libraries to use taxpayer money to acquire Internet workstations, and then buy filtering products that do not work as advertised and that do not advance pedagogical goals. First we pay to obtain Internet access, and then we pay again to get rid of it!

We should use every cent of those resources for educational funding, for daycare and kindergarten, for alleviating child poverty, for smaller class sizes, for updating school library collections, for more staff, and other educational goals.

And in a more rational body politic, we would also seek public investment in the classification of world-wide digital resources, and it would be done by experts interesting in facilitating access -- not be amateur entrepreneurs pumping up public fear.

Ideas and images on the Internet are mere shadows of reality. The only power they have is to inspire human thought and imagination. But for their actions, humans are entirely and individually responsible. Filtering is no substitute for the very human social behaviours of teaching and learning the knowledge and values of our society.

Internet blocking software is like performing brain surgery with a chainsaw. The best child-safe software that we could possibly have in our technologically advanced society already exists -- parents, educators, and librarians. Internet filters have all the effectiveness of cigarette

filters; and over-reliance on censorware to protect our values is just about as effective as menthol-laced cigarettes were in protecting our health.

I hasten to add, however, that a world without filters is not a world without problems. There will be transgressions just as there will be complaints. That is why educators must be fully trained and fully committed to essential pedagogical principles and appropriate institutional practices such as the following:

- adoption of an Internet use policy (acceptable use policy or AUP) that is approved by the school board, making explicit the respective rights and responsibilities of students, parents, and school officials for acceptable behaviour on the Internet

- age-appropriate levels of Internet supervision (this, by the way, is also true with filters – filtering still requires proper supervision at all times)

- age-appropriate guidance in Internet searching, and

- age-appropriate penalties for levels of infractions of school Internet policy, including the principle that penalties should be commensurate with those for other types of infractions and the principle of due process for student appeals and challenges.

We live in a world of moral ambiguity and intellectual limitation. Young people need help in learning how to survive and triumph as they grow up in that world. Knowledge and pedagogy are the only way. Values over filters!

So please just remember one thing, whatever your response to my presentation has been this morning and whatever your role in the educational enterprise, whether as student, educator, parent, or citizen:

The worst part of censorship is…. #*}@!^&*(!*#$]{%#$+-#!!.

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