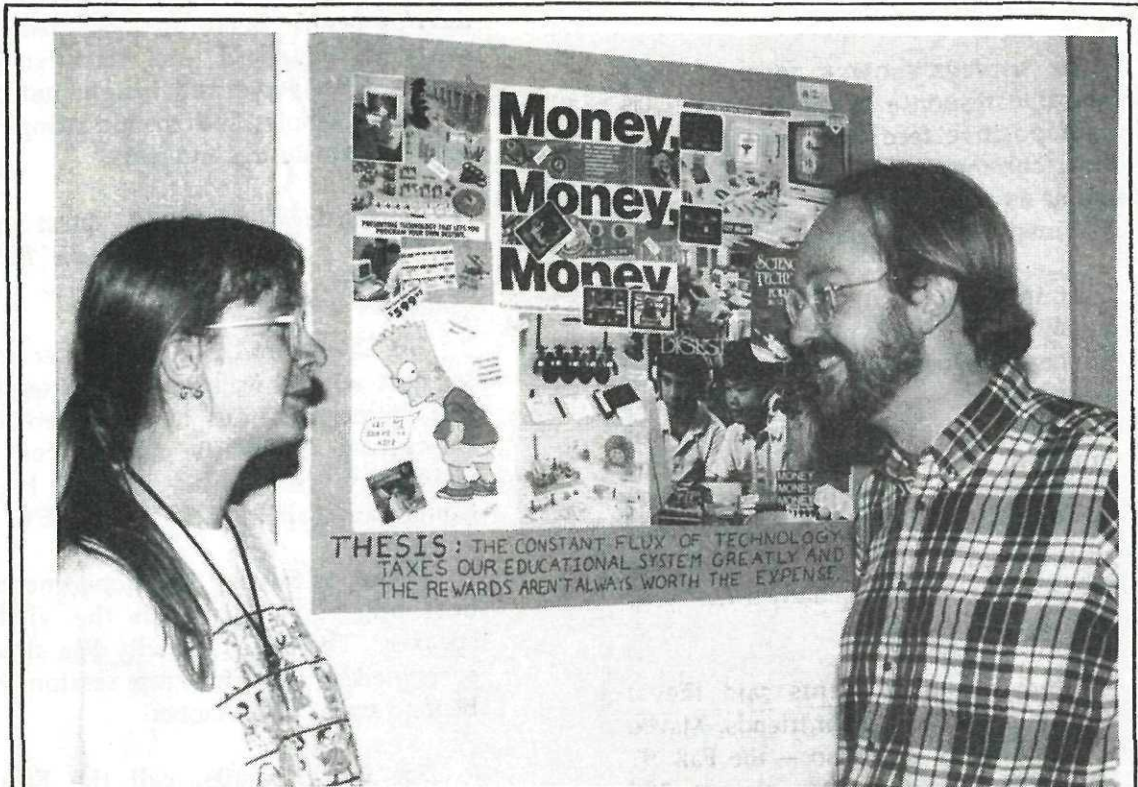




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Newsletter



Money may be the theme of this STV student's poster, which Option Coordinator David Huron is seen here discussing. But it's "technological malaise", not money, that's ailing CSTV, he says in the essay below.

As every university student and teacher is aware, we live in austere times. Universities are scrambling every year to balance inflation-eroded budgets. Some senior administrators take a "cargo cult" approach -- trying to find the right words that will make government favours fall from the sky. Other administrators try the "more with less" cookbook approach -- hoping to discover a mix of financial

ingredients by which academic goals can be accomplished with limited funds.

It would be easy to claim that CSTV needs more money -- and thereby join the chorus of complaints from innumerable worthy but underfunded causes. But the

Cont'd. on p. 6

INSIDE

- Yachtsman-professor teaches new course -- p. 8
- Beauchamp's brown bag -- p. 10
- On My Mind -- p. 4

COURSE EVALUATIONS SCRUTINIZED

Do we conduct student course evaluations for STV 100, you ask? We certainly do. Results from the Winter and Spring '90 course-surveys have recently been tallied by KATHY SHARPE of the CSTV office and are now being examined by the Director GEORGE ATKINSON and Option Coordinator DAVID HURON.

The surveys show a generally very favourable response to the courses, with lots of positive feedback. But there are critical comments too, and both will be valuable as course planners gear up for the Fall-Winter 1990-1 schedule.

Along with "it made me think seriously about things I took for granted," - a comment echoing sentiments expressed on previous surveys -- and cheering remarks about such things as student-instructor interaction, repondents raised concerns about the diverse viewpoints of instructors (especially in Winter '90, when five people were involved in teaching STV 100), the workload of what is nominally a first year course, and other matters.

A majority of students said they'd recommend STV 100 to their friends. Maybe some are already doing so - the Fall '91 Registrar's Report shows almost 100 students requesting it!

CENTRE RECEIVES SSHRC GRANT

Thanks to the efforts of Option Coordinator DAVID HURON and UW librarian STUART MACKINNON, CSTV has received a \$5000 one-year grant from SSHRC's "special collections development" fund for the purchase of research-oriented materials in the STV area. Huron is creating a list of items for purchase and invites *Newsletter* readers to make suggestions. Send him a legible note c/o CSTV, MC 4049.

Dr. Gregory Benford, a physics professor at the University of California who's regarded as a master of "hard science fiction," will be the 1990 Hagey lecturer at UW. He'll be speaking on 3-4 October in the Theatre of the Arts.

Hard science fiction, according to NY Times reviewer Gerald Jonas, features "up-to-date facts of science -- especially of physics -- (playing) a pivotal role in plot development." Benford, says Jonas, is a rarity in this field -- a scientist who "writes with verve and insight not only about black holes and cosmic strings but about human desires and fears."

Tides of Light is Benford's latest novel. He's also published *Beyond the Fall of Night* with Arthur C. Clarke.

"As Dr. Benford is both a writer and a scientist who is well versed in literature and the social sciences, his presence will be interesting to many aspects of the university community," says Hagey Committee chair LINDSAY DORNEY.

Dorney is inviting UW departments to host other sessions with the visiting speaker. The science faculty has already scheduled a reception/rap session with Benford at 4:30 on 4 October.

For more details, call the Faculty Association office at UW ext. 3787.



The UW Pugwash group, which has received some support from CSTV over the past couple of years (mainly in the form of storage and help with advertising), has a new contact person this fall. He's ANDREW REEVES-HALL, who's been involved with the group for some time. You can get in touch with him through the Federation of Students, Campus Centre, UW ext. 4042.

TWO NEW COURSES ADDED TO FALL AND WINTER STV LINEUP

"CSTV is offering a larger variety of courses than ever before," states option coordinator DAVID HURON.

Two of the courses are being offered for the first time, cross-listed from Science and Engineering.

In the fall, HISTORY OF COMMUNICATIONS TECHNOLOGY (SCI 268B) will explore the processes by which communications technologies have developed, and examine their implications for social organization -- from the record-keeping foundations of early empires to the propaganda mills of modern civilization. Major themes include the nature of invention, the nature of innovation, and ways in which communications technologies can transform society.

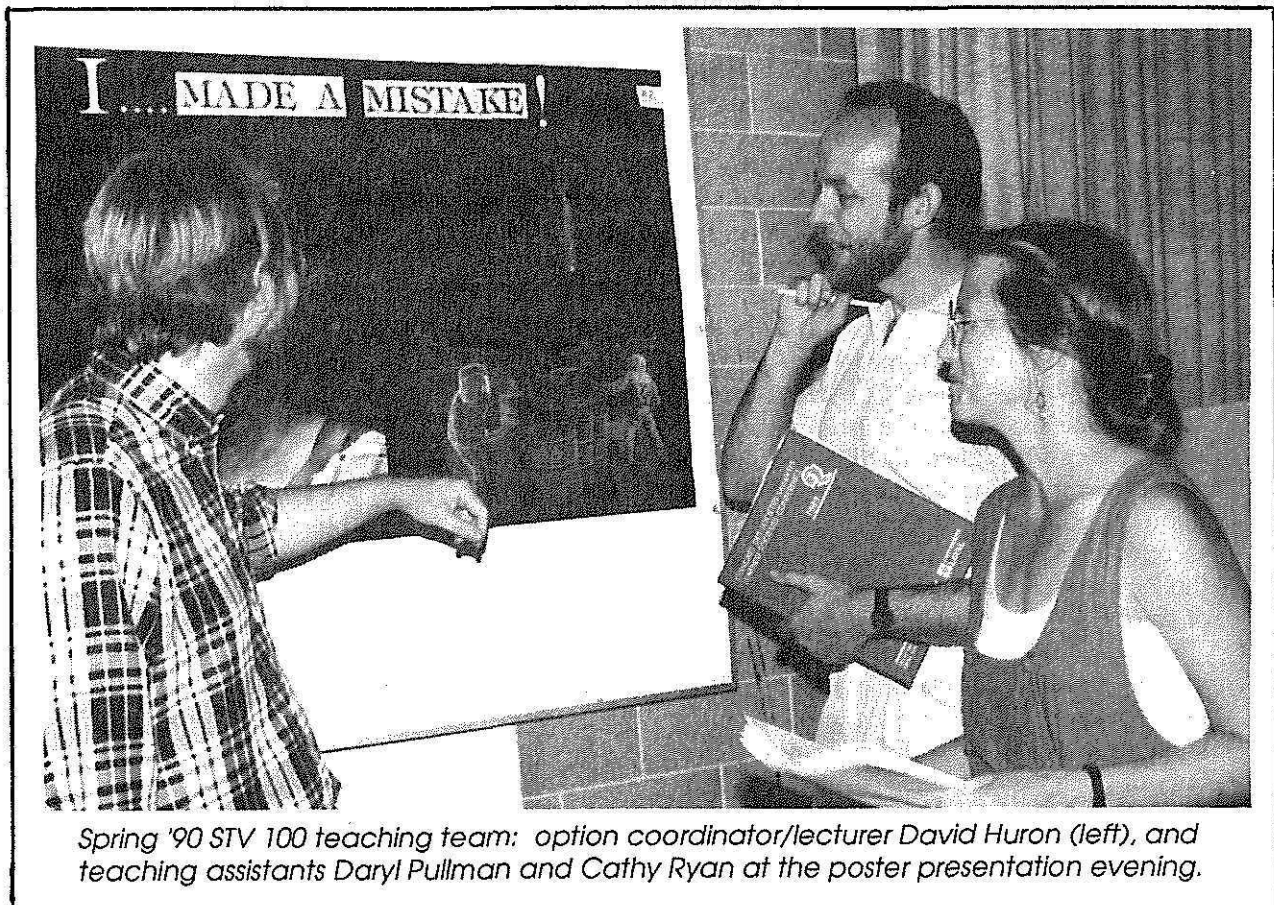
The course, which will be cross-listed as STV 201A pending approval, will be taught by visiting professor Dr. JAMES MACLACHLAN. It will be held Tuesdays from 4:30 to 6:30 p.m. in C2, room 278. (See story in this issue.)

STV 400, the senior project course, is also being offered.

In the winter 1991 term, the full complement of STV courses will be available (STV 100, 200 and 400), in addition to another new offering, ENGINEERING, TECHNOLOGY AND CANADIAN SOCIETY (GE 481, cross-listed as STV 401A).

Through an appreciation of the roles of engineering and technology in defining and expressing Canada, the new course will introduce and examine some of the principles, patterns, factors, choices and consequences of the mutual interaction between technology, engineering and society.

This course is intended for third and fourth year students, and will be taught by Dr. NORMAN BALL of UW's Civil Engineering department. Time and location TBA.



Spring '90 STV 100 teaching team: option coordinator/lecturer David Huron (left), and teaching assistants Daryl Pullman and Cathy Ryan at the poster presentation evening.

ON MY MIND

Sound the alarm? Find the fire?

A function of CSTV is making UW students, and the broader community, aware of trends and issues which pervade our technological society. A friend of mine has expressed one of these issues succinctly: "We seem to want a system with lots of rules for things, but no rules for people."

I was reminded of this remark several times recently.

One item in the local newspaper where I was vacationing pointed out that increasingly rigorous leak and spill prevention requirements for gasoline storage tanks near watercourses have driven out of business all but two marinas selling boat fuel on Peninsula, Fairy and Vernon Lakes at Huntsville. Boaters are now making long fuel-consuming journeys in search of fuel, or transporting it -- in possibly unsafe or unpermitted ways -- in cars to their waterside moorings. *Lots of rules for things.*

Another item re-examined the question of film censorship or classification. It concluded that no harm arising from the admitted exploitation of their audience by some producers could be nearly as bad as not letting everyone, including children, see everything they desire, or everything they encounter. *No rules for people.*

The third item is more interesting. Canada now has a new Copyright Act -- actually the first half of a promised two-stage change designed to take account of modern technologies like computery, photocopying, and tape recording. (The second stage disappeared in the lead-up to the 1988 election and has never been heard of since.)

This new Act is a classic case of rules for things, and it is a classic case of not knowing when to stop. Even writing some lines of poetry on a blackboard to discuss it during a lecture becomes a violation of the Act. How could such rules be enforced? Only by developing an all-embracing system of snoopers which would make the

Gestapo's monitoring of occupied Europe look amateurish. *Rules for things are spilling over into rules for people.*

But wait! That recent news report indicates concern that some folk may actually order material abroad and import it, rather than illegally copy it. Obviously, more rules for things are needed, and a proposal mentioned in the *Toronto Star* was to ban the importation by private citizens of copyright material.

The concern that things like tape decks and photocopiers might lead to someone not profiting because a work he owns has been reproduced has led to the notion that if someone isn't making money out of a citizen having an item, the citizen mustn't be able to have it. For instance, if no Canadian distributor found it worthwhile to acquire Canadian rights to a book, no one in Canada would be allowed to bring in a copy from elsewhere.

Does this third item contain an STV-type issue? Has the creation of rules for things overridden the concerns about rules for people? Should university students, and indeed the wider community, be alerted to this proposal? I certainly think so.

Clearly, new technology creates the need for new rules. Such rules may lead to the technology -- or the related rules -- telling people what they may or may not do. In some cases, we may see overreaction and out of balance responses, and draw them to the attention of our students as examples.

Our purpose in CSTV, however, is not just to brief our students to help sound the alarm for issues we have perceived. Rather it is to prepare them to notice the smoke and find the fire as new issues emerge.

If they can do that, they can help build a better future for us all.

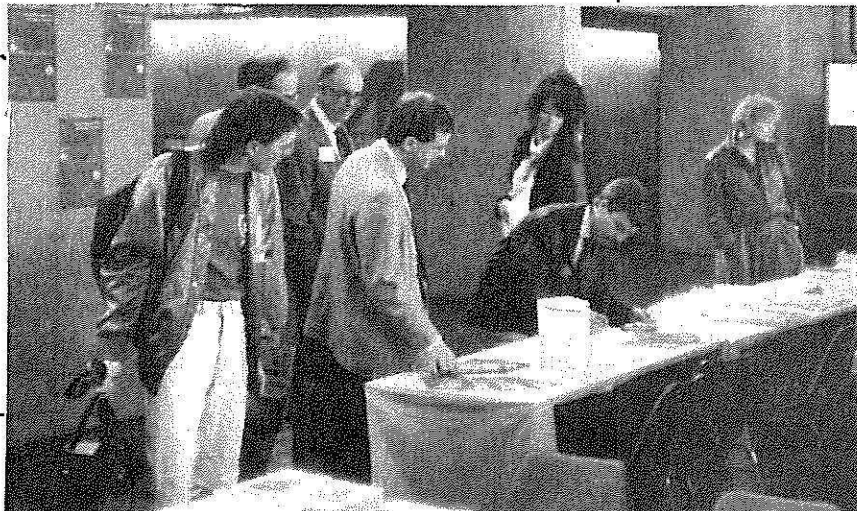
George A. Shinn

UBC CONFERENCE HAS CSTV CONNECTIONS

Newsletter editor STEVE JONES attended a conference called "Moral Philosophy in the Public Domain" held at the University of British Columbia in June. The wide-ranging conference attracted more than 100 participants from Canada, the US and elsewhere. (See *Newsletter 17* for a partial list of the participants.) CSTV had an information booth there and gained a number of new "subscribers" to the *Newsletter*.

"Old" connections were re-established too. MIKE MCDONALD, longtime UW philosophy professor who's now heading UBC's Centre for Applied Ethics, gave the keynote address. ERIC HIGGS, the STV option coordinator in 1987-8, presented a paper on environmental ethics. Higgs has recently taken up a position at the University of Alberta, where he'll be setting up an STV-type curriculum. He came to Vancouver from Oberlin College in Ohio, where he spent last year in the environmental studies faculty. LANGDON WINNER, political science professor at Rensselaer Polytechnic and CSTV's 1989 Wiegand lecturer, gave a talk on democracy in the technological age.

Higgs, Jones and Winner spent much time together getting reacquainted and fortifying themselves for the conference's more strenuous sessions. Also in the vicinity was former STVer GED MCLEAN of the University of Victoria, whose assistant attended the conference on his behalf. Details on some of the sessions are available (potentially!) in the editor's notes, which are now being transcribed.



Scenes from a Conference:

Top Keynote speaker Mike McDonald (L) and colleague

Centre Langdon Winner (L) and Eric Higgs

Left CSTV literature proved popular

Cont'd from p. 1

problems at CSTV are not predominantly monetary. Ironically, they are *technological*.

"Technology", as any STV student knows, is not merely the physical nuts and bolts of glamorous or grease-smudged machinery. There is also the "soft" technology of manufacturing processes, computer software, information systems, management methods, and modes of organizing people. As Max Weber observed long ago, technology, rationality and bureaucracy are all modes of systematic behaviour oriented toward achieving certain goals or values.

Of course technologies don't always operate in the ways we wish. Technological malaise can take many forms. And it is not merely new technologies that may cause problems. Old or existing technologies may cause problems

"CSTV is left with a creaking, ill-suited administrative structure"

too, by failing to adapt to new situations or opportunities, or by failing to reflect changes in social values.

Recent months have shown that CSTV's academic program suffers from a serious structural and organizational difficulty. As an interdisciplinary Centre, CSTV receives a modest budget from the University of Waterloo. However, we do not have our own faculty members. In itself, this is not necessarily bad – provided we have ample opportunity to attract and retain gifted UW faculty members from various disciplines.

But it is extraordinarily difficult now to secure the participation of such faculty members. In austere times established disciplines tend to circle the wagons in order to prevent further budgetary casualties. Secondment, promotional and

other policies make it all but impossible to secure a balanced talented pool of faculty for our courses. In 1989-90, we faced a *complete* turnover of STV teaching staff, and we are poised for a *second* complete turnover next year!

Just when issues related to the interaction of technology and social values are receiving greater public and professional interest, CSTV's academic program is less and less able to respond.

Our present administrative structures are making it impossible to coordinate supply and demand. There is some movement within UW to adopt activity-based funding, but this will not likely be implemented soon.

Meanwhile, CSTV is left with a creaking administrative mechanism ill-suited to achieve the Centre's academic mandate. We are suffering from our own form of technological malaise.

What does the future hold? The history of technology suggests we can expect one of these scenarios: 1) lack of interest in the goals will lead to abandonment of the academic program, 2) a series of band-aid technological fixes will ensue -- each one either compounding the problem or deferring it the future, or 3) a concerted effort will be made to design and implement a better system.

The modern university is a bullring of competing ideas and pursuits. Often, administering a university budget amounts to a "zero-sum game" where one group's gain is another's loss.

Can we be sure that CSTV will receive fair consideration in the competition for limited resources? I hope so. Clearly, we must not succumb to UW's own particular variety of technological malaise.

-- D. Huron

CSTV VIDEOTAPES NOW AVAILABLE FOR CLASSROOM USE AT UW

We have our own collection of videotapes (VHS format) recorded at CSTV events over the past several years. Instructors are invited to consider using one or more of these items in classes on "STV-type" issues. The tapes have been cleared only for use in classes at the University of Waterloo. Listed below are the titles currently available. To borrow a tape or to request more details, call KATHY SHARPE at the CSTV office, UW ext. 6215.

Videotape Catalogue

Title

Intro/Frankel/Unger/Brooks

Professionals and Social Responsibility Conference

1988

Panel: "Ethical Codes in Practice" to "Redemption of Science

Professionals and Social Responsibility Conference

1988

"Global Peace and Human Rights" to Panel: Global Peace as a Professional Concern"

Professionals and Social Responsibility Conference

1988

Discussion Period

Professionals and Social Responsibility Conference

1988

Ursula Franklin

Building a Database for STV -- avenues for research and practice

1990

David Suzuki

Wiegand Award presentation followed by his address, "The Turnaround Decade"

1990

Langdon Winner

Democracy and Technology: a clash of cultures

1989

Langdon Winner

Political Ergonomics: design and the public good

1989

Ursula Franklin

Wiegand Award Presentation followed by brief remarks

1989

NASTS Conference

\$64 Billion Question

1989

An Interview with
JIM MacLACHLAN: HISTORIAN, YACHTSMAN, STV COURSE INSTRUCTOR

One of the more intriguing lines on Jim MacLachlan's "editorial services" business card, which lists his numerous areas of expertise, says "yachting." Yachting?

"They stopped the war a year too early for me," says MacLachlan, a recently retired Ryerson history professor who's teaching an STV/Liberal Science course at UW this fall. He had joined the sea cadets just before the end of World War 2 but never got into the action. After the war, still excited by ships and the sea, he went to a Toronto boat show where he "fell in love with a catamaran."

But it wasn't until many years later, after getting his Ph.D. at Harvard, that he finally could afford a sailing vessel of his own. There's a story in that too: it seems his son was taking a night school boat-building course and needed some help; MacLachlan ended up with patterns for a dinghy, subsequently building one and enjoying it for several years in northern Ontario waters. Later he owned a 31 foot yacht, which he has since sold.

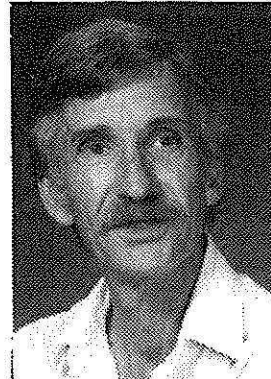
Yachting offered a break from academia. Now the sailor-professor is developing ideas for stories about his favourite pastime for yachting magazines -- as well as getting together his fall course.

Writing and editing have been a part of MacLachlan's life for a good while. In 1988, he published a 320-page history of science and technology, Children of Prometheus, a book which owes its existence to a CJRT-FM Open College radio course he had prepared several years earlier. Pre-publication versions received favourable tryouts by colleagues at various levels of education in Ontario. Thanks to publisher Byron Wall's tenacity, the "collegiate" edition of the text now appears on the Ministry of Education's approved list for the OAC (grade 13) course on science and society.

While the high school course hasn't fully established itself yet, MacLachlan is confident it will do so in the near future. In the meantime, some US colleges have expressed interest in his book, and a trade edition paperback could be in the works soon.

Some of the material in Children of Prometheus will no doubt find its way into his course at UW. Titled "The history of communications technology," the thirteen-week offering is cross-listed as Science 268B and STV 201A.

MacLachlan plans to investigate three major themes -- the nature of invention, the nature of innovation, and the ways communications technologies can transform society. "We'll explore the process by



MacLachlan

*The processes
and social
implications
of
technology*

which these technologies have developed, and we'll examine their implications for social organization," he says.

Everything from "the record-keeping foundations of early empires to the propaganda mills of modern civilization" will come up for discussion. The instructor will trace developments from the period of "wedge impressions on clay tablets" to the era of "binary digits flashing round the globe," and will focus on three main technologies -- printing by moveable type, wired communication and wireless communication.

See p. 9

1991 CONFERENCE ON PREPARING FOR A SUSTAINABLE SOCIETY

There have been lots of conferences on the general concept of a sustainable society, but one that's being planned for Toronto next June will focus on specifics.

"Preparing for a sustainable society" is the theme for an interdisciplinary gathering to be held at Ryerson Polytechnical Institute on 21-2 June. Initial sponsors of the event are the Toronto chapter of the IEEE Society on Social Implications of Technology, U of T's Faculty of Applied Science and Engineering, and Ryerson's Faculty of Technology.

Confirmed participants include URSULA FRANKLIN and WILLEM VANDERBURG, both of whom are well-known to CSTV *Newsletter* recipients. John Jackson, initiator of the Carnahan conferences on "harmonizing technology with society" and James Ham, president of the Canadian Academy of Engineering, will also be involved.

Conference themes include Defining the problem, Redirection and democratic control, Dilemmas confronting practising engineers, and Engineering education for a sustainable society.

Papers are being solicited now. Abstracts are due by 15 December 1990.

For more details, contact Willem Vanderburg, Centre for Technology and Social Development, Rosebrugh Building, room 210D, University of Toronto, Toronto M5S 1A4. Call (416) 978-2924.

NEWSLETTER PRODUCTION

- Steve Jones
- Kathy Sharpe

Photos by UW Central Photographic
and J.R. Paiff

Cont'd. from p. 8

MacLachlan's many-sided career has always centered on science and education, though at various levels. His first degree was in engineering physics (U of T, 1950). Later he taught high school mathematics and physics, and headed the science department at a Scarborough collegiate (1959-68). He then went to Harvard, where he received an M.Ed. and, in 1972, a Ph.D. in the history of Science.

MacLachlan taught at Ryerson from 1977 to 1989, arriving there after a number of years at the University of Toronto's Institute for the History and Philosophy of Science and Technology. The Ryerson position was a new one at the time and couldn't have been opportune for him. While his colleagues at Canada's leading polytechnic were mainly political historians, MacLachlan specialized in the history of science and technology, teaching many classes of third year technologists.

While at Ryerson he also developed a backgrounder course in science and technology for journalism students. He confesses to having taught modern European history too ("badly!" he says).

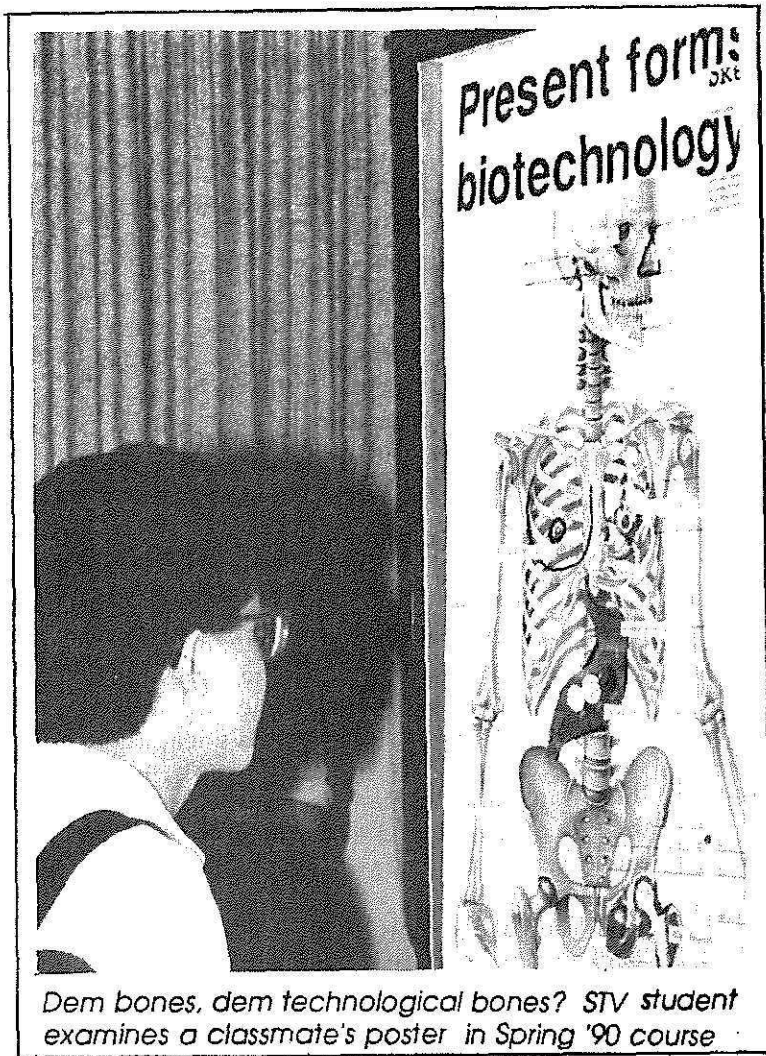
It's clear that there will be some good stories in his course, which will cover Canadian and world figures. Alexander Graham Bell is one of several Canadians on

*"I'm more of a
technological
doubting Thomas,"
says MacLachlan*

the syllabus. Like other science and technology historians, MacLachlan has come to regard Bell's major invention as both Canadian and American. The telephone, he says, was "conceived in Canada but born in the United States."

Other Canadian figures to be discussed include Harold Innis and 1960s media guru Marshall McLuhan. Regarding Innis, MacLachlan says there simply isn't

See p. 10



Dem bones, dem technological bones? STV student examines a classmate's poster in Spring '90 course

Cont'd. from p. 9

anybody else who looked at communications the way he did. With respect to McLuhan, he acknowledges having some reservations about the intellectual depth of Innis's successor, describing McLuhan as a veritable "scholar of the one-liner (who) turned himself into a non-fiction version of James Joyce."

Though his Waterloo course will have a definite historical bent, it will examine social values issues as well. Near the end MacLachlan will be asking, for instance, "How can the media be employed to support or reject traditional value systems?" And he and his class will be speculating on other questions such as "Where will the new era of computers and FAX take us?"

In surveying the whole spectrum of modern technology, MacLachlan characterizes himself as something of a "technological realist." He's obviously not a technology-basher, but he's no technological romantic either. "Maybe I'm more of a technological 'doubting Thomas'," he laughs. He feels some technological trends are simply irreversible and he's pessimistic, even fatalistic, about their inevitability.

SHELLY BEAUCHAMP TO GIVE BROWN BAG TALK IN SEPTEMBER

Mark Wednesday, 26 Sept. in your calendar. That's the date for CSTV's first "brown bag" lunchtime talk/discussion of the Fall term. The speaker will be SHELLY BEAUCHAMP, co-director of the Women Inventors Project.

Her topic will be "Women, technology and values" and she'll outline why women (and men) are currently opting out of science and engineering programs and how STV programs might bridge the gap, especially between women and science. Beauchamp will also describe the Women Inventors Project, about which she's often interviewed by the local and national media.

Beauchamp, who received her Ph.D. from UW in 1977, was a resident scholar at Queens in 1989 and is an adjunct professor in Environmental Studies here at Waterloo. Her one-hour session for CSTV will be held in Davis Centre room 1302 at 12:30 p.m.

What would MacLachlan like to see happen in his course this fall? "The main goal in all my teaching," he says, "is to provide a variety of viewpoints and interpretations. I want to help students improve their analytical capacities. I want them to see how things are connected to each other."

But students can't exercise those capacities in a vacuum. "The content has to be there," says MacLachlan, whose own field is the history of seventeenth century physics. While he could be lecturing on any number of topics in the history of science and technology, it happens that his subject matter this time is communications technology.

And that's what he hopes to give students an opportunity to think through.