



Emerging Technologies

By Donald Alexander

On May 12, 2006, my early morning train is speeding through Niagara vineyards at 120 km an hour. I'm bound for Friends House in Toronto for a Saturday meeting about new and emerging technologies.

One hundred and eighty years ago, Quakers from Middlesborough and Darlington in northern England were daring enough to be the first "charter coach" tour group on the newfangled steam train. First in line to try the new technology.

The Quakers sat primly on their chairs on a flat car. Amid the fearful hanging on and the thrill of the 10km an hour speed, were some people considering the sweeping changes this emerging steam-engine technology could bring?

What about the pace of change? Distance would shrink. Could they ever imagine all the advances that would be made over the next century? A one week crossing of the Atlantic in a giant steam propelled liner; steam engines pulling express trains from London to Edinburgh in four hours. I'll bet they had hopes ... and fears. Could they imagine factories belching smoke and confining labourers in the works? The end of coal? Smog? Health effects? A sweeping technological change that would remake so many aspects of society?

In the comfort of my modern rail coach we're now rounding the bend through Hamilton. The steel mills are trying to contain their smoke emissions. How long has that been going on?

I'm now imagining some of the effects, hopes and fears of the new emerging technologies of the 21st century. We are being pulled along into the future. The pace of change is fast.

Before the day is out I'll be overwhelmed by all these new possibilities and risks.

It will be a task just to remember a few of the many new terms and words. The lexicon is overwhelming.

A good first-grade primer is the term "platform technology."

That's what we are dealing with: platform technology. New technologies with a common starting point but which, when put into practice, have hundreds and thousands of divergences. Think: printing press, steam engines, electricity generation and transmission, internal combustion engines, vaccines, digital chips. Now think of emerging technologies: bioengineering, gene therapy, nanotechnology, biotechnology, terminator seeds, genetic engineering, plant molecular farming.

Several members of Toronto Monthly Meeting have special knowledge of these emerging technologies. They are the ones who have issued an invitation to have a conversation about the best and worst of prospects for the future. There will be a chance to consider Quaker concerns.

A way forward is to consider where and how Quaker testimony connects with these new technologies and the economic and moral issues they raise.

There are thirteen of us. In the introductory remarks we hear that the technologies are evolving rapidly; there is a promise of great benefit but people have legitimate concerns and there is a great deal of uncertainty.

We have a variety of reasons for being here:

"I want to learn more and increase knowledge."

“... to seek clarity. There is too much information ... need basic information to start some discernment on the issue.”

“... to encourage others to engage with the federal government on the need to accept a precautionary principle.”

“... to clarify the research agenda — much of which is publicly funded but the research is privatised. The research agenda needs to be open and transparent. Public money is for the public good.”

“I want to develop a Quaker voice on these issues.”

A series of five fact sheets is available. We are fortunate that two of the Quakers present have been instrumental in funding, as well as designing, writing and researching the fact sheets. The information describes several major manifestations of the emerging technologies and outlines claimed benefits and concerns surrounding each.

The Canadian Quaker International Affairs Programme based in Ottawa has been active on one of the fronts for several years. The patents granted on seeds and plant varieties undermine agricultural biodiversity and threaten the rights of farmers to save seeds and maintain traditional farming practices.

The Quaker Institute for the Future (QIF) has embraced the topic. The emerging technologies and the policy surrounding them will be one focus of their research and publications. The Institute describes their process as “a meeting for worship for research.”

One of the fact sheets we had in front of us introduces the reader to genetic use restriction technologies that have been developed to protect companies holding patented crop varieties. Concerns are outlined and seem to outweigh stated benefits.

Benefits and hopes. Concerns and fears.

Plant molecular farming is the use of genetically modi-

fied plants to produce pharmaceutical products or industrial chemicals. The potential for new and more widely available and much cheaper pharmaceuticals is compelling. However, there are risks to biodiversity and human health.

Biofuels and biotechnology. The Canadian biotechnology strategy of 1998 proposes as its main theme that Canada should position itself to be a responsible world leader in biotechnology, including explicit attention to ethical and social responsibilities. However, “regulation of biotechnology in Canada is a confusing patchwork of legislation originally created for controlling other products, substances and processes.”

Genetically engineered trees. Trees are genetically engineered so they will have a particular attribute such as resistance to disease or altered characteristics to make pulp production or biofuel growth easier. Trees may be engineered to have a faster uptake of carbon dioxide, a major greenhouse gas, in order to help slow climate change. Pollen and seed from trees can travel for many kilometres. The “escape of genetic traits from genetically engineered trees into native forests could potentially have severe consequences.”

Nanotechnology includes techniques to manipulate materials at the scale of atoms and molecules. Promoters promise huge future and near-term breakthroughs in beneficial fields. For example, highly targeted delivery of medications would include cancer drugs going directly to cancer cells without the side effects associated with chemotherapy today.

“There is no formal ongoing mechanism for civil society input about nanotechnology policies in Canada.”

During the discussions at Friends House in Toronto we heard that the Canadian government “has set the direction and sees the technologies as the economic growth engine and job creator for this century. There is an increasing concentration of power between government and industry in setting the research agenda and the

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direction of these technologies. The government is in a conflict of interest situation — it is promoting these technologies but it is also supposed to be protecting the public good.”

One of the attendees said government no longer sees the public as its client but rather sees corporations and industry. Another suggested that we need to engage our government to develop a moral decision-making process which will include precautionary principles and a process of learning and discernment. There is a need for more public engagement.

I don't think the Quakers of Darlington and Middlesborough were “just along for the ride” on that first steam train ride 180 years ago. The Quaker testimonies would have helped them contemplate the wider implications of the new machines.

On my way home railroad analogies came to mind. With the fast pace of change and the corporate agenda, is the public being “railroaded?” I don't want to be “sidetracked” from public participation and consideration. Worst of all would be an exclusive research and patent regime that leaves me “standing at the station.”

THE FACT SHEET SERIES ON INNOVATIVE TECHNOLOGIES WAS RESEARCHED AND WRITTEN BY SUSAN HOLTZ, A MEMBER OF HALIFAX MONTHLY MEETING SOJOURNING IN TORONTO. THE SHEETS ARE AVAILABLE FROM THE CANADIAN INSTITUTE FOR ENVIRONMENTAL LAW AND POLICY (CIELAP) <http://www.cielap.org/>, 130 SPADINA AVENUE, SUITE 305, TORONTO M5V 2L4. THE CONVERSATION ON INNOVATIVE TECHNOLOGIES WAS INITIATED BY ANNE MITCHELL, OF CIELAP, WHO IS ALSO A MEMBER OF TORONTO MONTHLY MEETING. ↻

Donald Alexander is a member of the Quaker Ecology Action Network, and an attendee of Pelham Executive Meeting.

Excitement at Camp NeeKauNis

By Beverly Shepard

A piece of property has been added to Camp NeeKauNis, approximately doubling its size and providing a winterised two-bedroom house. This has opened new possibilities for Canadian Yearly Meeting's only permanent camp. A house means there could be a full-time Resident Friend (RF); a full-time RF means someone would be available to oversee Camp for many different programmes well into the fall and starting earlier in the spring. More programmes mean more people will have the opportunity to spend some time at Camp, perhaps in an intensive workshop weekend or a quiet retreat, with skilled and knowledgeable leaders or just a group of like-minded Friends. What intriguing ideas are swirling about!

The Camp NeeKauNis Committee, which oversees the

operations and maintenance of Camp, has been considering these possibilities and planning the gradual introduction of new staff and programmes. Finances are always a major consideration, and Camp is certainly no exception to that annoying little rule of thumb! The Resident Friend will at first have to be a volunteer, willing to donate time to test some of the procedures and ideas. Some short-term programmes will have to be tried to see whether attendance will warrant the expanded season and create the increased income necessary to support a year-round Resident Friend.

It turns out we have a chance for a little “pilot project.” Several factors combined for the summer of 2006 to produce a period at the end of the summer when Camp is not occupied by any regular Camp programme. As I write this, plans

are afoot for a work camp (no fees, just help build and maintain Camp for your room and board), an ecology workshop with a focus on end-of-oil, and an arts workshop with a wide range of activities. Does any of this sound like something you'd like to do? By the time you read this, such programmes may be finalised and ready for registrants!

If you are interested, please contact Beverly Shepard at (905) 659-6119, bev.shepard@hwc.org for details. Better yet, check the NeeKauNis website at <http://www.hwc.org/~hmm/nkn/>, for more details and registration forms. ↻

Beverly Shepard, a member of Hamilton Monthly Meeting, is the Administrative Director of Camp NeeKauNis.