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FROM THE EDITOR'S DESK

Michael Prior

"But Englishmen detest a siesta." [1]

I learnt to take a siesta whilst living in the south of France fifty years ago. At first it seemed a waste of time. Gradually I realized that it was wise to rest during the hottest part of the day, sleep and awake refreshed. The taking of a siesta was once widely practiced in many countries. The name comes from *sexta*, the Spanish word for sixth, because the siesta is usually taken six hours into the workday, i.e. after noon. Of course, the siesta has long been the custom is countries with very hot midday temperatures. Why is it considered a good idea? There is the obvious one of not working in the excessive heat. Further, nymphs driven into a frenzy of randiness by Pan, cast their spells during siesta time, and shepherds can succumb to these spells. You have been warned!

Thirty years later I stayed with friends in Barbados. Again, the siesta. We arose almost with the sun, were active until lunch, then took a siesta until a little after three. Again, waking refreshed and able to keep going. However government employees were not allowed the siesta; the post man carried a very heavy load of mail in the midday heat. Perhaps a tinge of post-colonialism?

Evidence supporting the concept of the siesta is scant, and has mostly relied on qualitative anthropological data. A number of studies are inconclusive. A study in West Jerusalem concluded a weak overall relation of siesta with mortality in men; but this was attenuated upon exclusion of patients with chronic conditions. The authors state that their findings tend to argue against a causal role for siesta. Nevertheless, they continue, "*the data are also compatible with long siestas conferring excess risk. However, without persuasive data, recommendations related to this traditional practice should not be made*."[2].

Obviously, the practice might be affected by geographic, climatic or light conditions, as well as cultural influences. The results of a study of 577 Mexican college students in Mexico City called into question what is meant by the concept of a "*siesta culture*", at least in this urban, educated, upper social economic scale population. The authors suggested that future studies in equatorial regions be undertaken to further appreciate the role of climate, photoperiod and/or culture in the tendency for humans to nap during the day [3]. The Mexican government has stopped the siesta for civil servants - to save electricity.

Of course, it isn't always easy to siesta when at work, though a well-timed slide show can be an adequate substitute. Or a trip to the reference library and a secluded carrel. All hearsay evidence, of course. When leading workshops, I worked very hard to keep people awake and attentive during the siesta time; definitely not a time for reduced lighting, lots of detail, monotonous presentation, etc.

Are siestas on the way out? Today the siesta has lost ground in Portugal, Italy, Spain, and Greece, and lately in Mexico. Corporate culture spurns the concept as unproductive [4]. How many of our readers take one? However, there is a possible alternative. Some management gurus recommend "*power napping*" as an acceptable alternative.

However there remains a certain opprobrium to the siesta, at least amongst Englishmen, who according to Noel Coward, detest it. Indeed, the English phrase "*caught napping*" implies being caught doing something one shouldn't!

Underlying the demise of the siesta is the serious issue of the theft of people's time by modern society, and the effort we *all* need to make to reclaim it. "*The siesta is a sidetrack leading away from all activity that is distinct, obligatory, habitual and mechanical*." [5] . It becomes a personal act in which one reclaims one's right to spend time as one will. "*The siesta is an act of resistance, an adopted position, a policy*." [5]

There's a traditional mass exodus from France's bigger towns in August. Yet some wonder if they even got away. It's because of *le portable,* or cell phone; as well as the laptop. Part of *mondialisation* - the globalization of business and business. Part of the trend to be accessible anywhere, anytime. Unfortunately, not confined to August, nor to France. We know of companies that closed offices, and bought their staff computers, faxes, modems, printers, high speed links, etc. So now "*office hours*" are midnight to midnight, with family fitted in on the sly.

The siesta is an individual's response to 24/7, eighty hour plus work weeks, continuous electronic communications, and other abuses. The siesta is a metaphor for the loss of personal freedom through continuous work. No laughing matter, eh?

My first experience of siesta was whilst living in a small village on the Mediterranean. Once again I live in a small community on the ocean. And, of course, experiencing the delights of the siesta. Now, if you'll excuse me **...**

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SALADES DE PISSENLITS OU VINAIGRETTE AU 2,4-D?

Isabelle Plante, INRS-Institut Armand-Frappier;Centre de Recherche en Santé Humaine, Pointe-Claire, Québec

Abstract

On the third of April 2003, a legislation on the use of pesticides has been sanctioned by the Quebec Government. Many cities across the country already have such rules, but this was the first provincial legislation. Good citizens can look at newspapers, magazines and other types of publication to make their mind on the necessity of this law. Personally, I quickly realised that plenty of documents are on the environmentalist group side, telling us how bad pesticides are, that this law is not even enough and that everybody should ban the pesticides. They also give tricks to get a bio-lawn without any dandelion. But where is the other side of the medal? The opinion of toxicologists who know about studies on pesticide safety or risk is hard to find. At the end of the day, I still don't know if this law is good or bad, but I am convinced that it is hard for a non-scientist to see any good reason not to applause this law. This make me think that we don't have any other choice: we will either have to learn how to grow nice green lawn without using any pesticides, or to learn to appreciate dandelion salads!

Le 3 avril 2003, le gouvernement du Québec a adopté un "code de gestion des pesticides", dont la mise sur pied s'échelonnera sur 3 ans. Cette réglementation fait suite à de nombreuses pressions des groupes environnementalistes qui réclamaient une gestion plus serrée des pesticides depuis plusieurs années.

Ce code n'est pas le premier du genre. La ville de Hudson, à l'ouest de l'île de Montréal, fut la première ville du Québec à interdire l'utilisation de pesticides à des fins esthétiques, et ce, autant sur les terrains privés que publics. C'est en 2001, après une longue bataille juridique ayant duré environ onze ans, que la Cour Suprême du Canada lui a reconnu le droit de "prendre des

mesures de protection de la santé et de l'environnement, tant que celles-ci n'entraient pas en contradiction avec la législation fédérale". Une trentaine de municipalités au Québec ont adopté des règlements semblables. Par exemple, à Chelsea, dans l'Outaouais, un permis est présentement nécessaire afin d'utiliser le moindre pesticide chimique, et ce, depuis 1998; ce permis n'est cependant délivré qu'en cas d'infestation. La ville de Montréal tente aussi d'emboîter le pas puisqu'un projet de loi a été déposé en février dernier et il pourrait entrer en vigueur dès 2004. Et l'idée suit son chemin; en mai dernier, on pouvait lire dans le Globe and Mail qu'environ 45 villes canadiennes, incluant Toronto et Calgary, étaient dotées de telles lois. Cependant, le code de gestion adopté par le gouvernement du Parti Québécois peu avant les élections provinciales, est le premier visant une législation provinciale des pesticides. Il découle d'une enquête menée en 1998 sur le sujet. Dans son rapport déposé en mars 2002, le comité de réflexion énonçait deux principes qui constituent la base du code de gestion : 1) en l'absence de certitude scientifique sur la toxicité des pesticides, il faut être prudent quant à leur utilisation; 2) en donnant l'exemple d'une gestion environnementale efficace des pesticides au niveau municipal et sur les terrains publics, on peut induire des changements de comportements de la population en milieu urbain. Mais quelles seront les mesures à adopter pour les Québécois quant à l'utilisation des pesticides dans les années à venir?

Le code de gestion comprend des normes plus rigoureuses concernant l'entreposage, la vente et l'utilisation des pesticides. On y définit un pesticide comme étant "une substance chimique, biologique ou d'origine naturelle destinée à prévenir, à détruire, à éloigner ou à réduire une population d'organismes que l'on considère comme nuisibles[1]". Depuis avril 2003, il est interdit d'appliquer des pesticides présentant le plus grand risque pour la santé et l'environnement sur les pelouses des espaces verts publics, parapublics et municipaux[2]. Les pesticides à hauts risques sont ceux qui présentent un potentiel cancérigène, soit le carbaryl, le dificol, le malathion, le 2,4-D, le chlorthaldiméthyl, le MCPA, le mécoprop, le bénomyl, le captane, le chlorothanil, l'iprodione, le quintozène et le thioohanate-méthyl. À compter d'avril 2006, les mêmes règles s'appliqueront aux espaces verts privés et commerciaux. Le code comprend également des règlements plus sévères concernant les titulaires de permis et de certificats pour la vente et l'utilisation de pesticides à des fins commerciales. Le nouveau ministre de l'Environnement du Québec, M. Thomas Mulcair, aura pour tâche d'appliquer ce code adopté par ses prédécesseurs ce qui ne devrait pas être une mince affaire!

Bien que la loi découle d'une enquête, la population québécoise, pas plus que la communauté scientifique, n'a été consultée avant l'adoption de ces règles. J'ai donc décidé de me mettre dans la peau d'un citoyen "moyen", n'ayant que peu de notions en toxicologie, pour faire ma propre opinion sur le bien-fondé de ce code. J'ai alors parcouru la littérature "grand public" (journaux, revues, éditoriaux, émissions télévisées) pour me renseigner sur les pesticides. Ce qui frappe le plus, c'est que seuls les groupes environnementalistes, donc très favorables à la législation, prennent la parole publiquement. En parcourant les diverses publications, j'ai pu trouver milles et une façons de traiter ma pelouse de façon plus écologique, de l'application d'engrais biologique à l'élevage de nématodes (petits parasites friands du ver blanc, l'ennemi numéro un du gazon). On y vante aussi la beauté d'un gazon diversifié et parsemé de pissenlits. Bien sûrs, à l'opposé, les méfaits des pesticides y sont présentés

comme dans un film d'horreur; cancer, problèmes neurologiques, retard de croissanceJ'y apprend également, à mon grand étonnement (sic), que : "l'exposition aux pesticides occasionne des problèmes neurologiques graves, car elle survient alors que les enfants sont en pleine croissance"une fois l'adolescence passée, vous êtes sauvés, les pesticides ne peuvent plus rien contre vous! Bref, les revues et journaux regorgent d'avertissements, de cris de victoire des groupes environnementalistes, de règles pour un gazon bio et de mises en garde contre la menace chimique. Normalement, il y a cependant toujours un autre côté à une médaille

Cet autre côté est difficile à trouver pour le "citoyen moyen". J'ai dû effeuiller plusieurs journaux pour trouver l'opinion des spécialistes en la matière (et recourir à mes contacts, je dois l'avouer!). Plusieurs études démontrent que l'utilisation de pesticides ne semblent pas augmenter les risques pour la santé. Margaret Wente (Toronto Globe and Mail), dans son éditorial du 24 mai 2003, appuyait cette absence de corrélation entre l'utilisation des pesticides et le risque de développement de tumeurs par des études réalisées par Len Ritter de l'Université de Guelph. Ce dernier affirmait que "*En regardant en profondeur, vous trouverez des rapports qui amènent des inquiétudes sur n'importe quoi. Mais il faut regarder toutes les données. Et le fait est, en regardant plus largement les données scientifiques, que les produits d'entretiens des pelouses ne sont pas un problème*" (traduit de l'anglais[3]). Dans le même ordre d'idée, une vaste étude a été menée auprès de 95 familles agricoles, représentant la population probablement la plus exposée aux pesticides, au Minnesota et en Caroline du Sud. Les analyses des échantillons d'urines ont démontré des taux urinaires de pesticides peu élevés tant chez les fermiers appliquant les pesticides, que chez leurs femmes et leurs enfants demeurant sur la ferme (Farm Family Exposure Study, http :www.farmfamilyexposure.org/index.html). Plusieurs autres études abondent dans ce sens. Il n'y aurait pas de risques pour la santé relié à l'utilisation des pesticides de façon sécuritaire. De plus, les produits utilisés par la population qu'il était, jusque maintenant possible d'acheter dans les magasins à rayons ou les pépinières, ont tous été homologués par l'Agence de réglementation de la lutte antiparasitaire (ARLA) qui relève du ministère de la Santé du Canada. Est-ce que le Gouvernement a mal fait ses devoirs? Non, des analyses ont démontrés que, utilisés correctement, les produits homologués ne présentent pas de risques inacceptables pour la santé. Alors, pourquoi établir un code et bannir l'utilisation de pesticides?

La réponse se trouve dans la définition du risque acceptable. Certains groupes vous dirons qu'il n'existe aucun risque acceptable, que le moindre risque pour la santé est en soit inacceptable. D'autres vous dirons que s'ils sont utilisés correctement, les pesticides ne présentent aucun risque; le risque vient d'une utilisation abusive ou non-sécuritaire. "*Pour devenir malades, les gens doivent être exposés à des quantités des milliers de fois supérieures à celles auxquelles ils sont exposés lors d'une utilisation normale. Vous devez garder en tête que c'est la dose qui fait le poison*", affirme Jim Bus, toxicologiste chez Dow Chemical Co[4]. Et bien sûr, étendre des pesticides sous un soleil radieux en short et en sandales, comme plusieurs le font, n'est pas nécessairement considérée comme une utilisation sécuritaire de pesticides

À la lecture de toutes ses informations, j'en viens à une grande conclusion : il n'est pas facile, pour un citoyen moyen, de

se faire une opinion éclairée sur le bien fondé de cette loi. En ayant seulement le côté des environnementalistes, on en vient vite à la conclusion que cette loi aurait en fait due être adoptée bien avant avril 2003! Je me demande à quel point, dans ce cas-ci, les risques encourus justifient le bannissement des pesticides. Peut-être que l'éducation de la population sur l'utilisation adéquate des pesticides aurait été suffisante. Une chose est certaine, c'est que bientôt, que l'on le veuille ou non, que l'on soit d'accord ou non avec le code de gestion des pesticides, il faudra apprendre à utiliser des méthodes alternatives à l'utilisation des pesticides, ou apprendre à apprécier les pissenlitsaprès tout, ils font d'excellentes salades!

Special thanks to Jim Bus for his assistance with documentation. Thanks to Michel Charbonneau and Robert Audet for their critical evaluation.

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THE VIEW FROM MY CANOE

Don Ecobichon

The summer has come and gone although, on this particular day, I am basking on the deck while I put pen to paper. What a life! First, there was a lot of rain, then hot weather to the point of being very uncomfortable. Some consulting and writing kept me busy most of June and July. I did not wet a fishing line this year and did not get my canoe in the water once. There was always something on television that I wanted to watch most evenings, good in one way since I was never exposed to virus-harbouring mosquitos. However, West Nile virus appear to be an urban/suburban phenomenon, the vector mosquito (females of 8-10 species) being quite comfortable in cities along with assorted bird species who inhabit the same territory. We have had no dead crows, ravens, bluejays, etc. around here, all being too healthy and too noisy.

Our summer birds have, for the most part, left us except for a couple of hummingbirds who haven't got the idea yet and the odd goldfinch. The geese are starting to gather together, with a flock of about 70 birds seen "resting" in a field this morning. Autumn is the time to get the winter bird feeders ready for use and to deer-proof the flower gardens - Betty's salad patch as far as they are concerned. I spotted an interesting article in the science section of the GLOBE and MAIL (Sept.6th), discussing squirrel-proof birdseed, something we really need around here. Apparently, some scientists at the U. S. National Cancer Institute were examining the active ingredients, capsaicins, in chili peppers for anti-cancer activity (they were inactive) but playfully decided to squirrel-proof a bird feeder. Capsaicins are a family of neurotransmitter-based irritants that interact with c-afferent nociceptors on the surface of the lips, tongue, and the inside of the mouth to release a neurotransmitter which our brains perceive as pain and heat. The digestive tracts of mammals are full of c-afferent nociceptors, but birds do not have such receptors and are not affected. A Canadian venture capitalist from Napanee, Ontario, invested in the company started by the NCI people, discovered that you could not coat birdseed with

powdered capsaicins (rain washed it off) but, if you made an oil-based solution of capsaicins, it would penetrate the sunflower seed husks, Of course, the product, sold in Canada under the name Squirrel-Proof, had to undergo testing as a pest-repellant for two and a half years but made it through the regulatory maze. There was also an occupational hazard situation that had to be circumvented - a manufacturing plant full of air-borne capsaicins dust!

A recent report in the ECONOMIST (July 26th) discusses a new trial treatment for the disease lymphatic filariasis or, as it is commonly known, elephantiasis. While mosquito nets can stop the insects that transmit it from biting, two drugs can influence the progress of the disease in infected people, Mectizan and albendazole, from Merck and Glaxo Smith Kline respectively, appear to be capable of eradicating the disease - the target date of the WHO for worldwide eradication being 2020. Trials are being conducted on the island of Mafia, near Zanzibar, by the WHO and the Tanzanian government, with eradication hoped for by 2005. However, the islanders are suspicious of government motives, the poorly educated women suspecting a plot to lower their fertility, while the men worry about their libido. Compliance in the trials has dropped from 80% in 2000 to 64% in 2002. Unless the compliance rate increases, the goal of eradication on this island will not be achieved. Fortunately, there are other trial sites.

An interesting article in SCIENTIFIC AMERICAN (September issue) raises attention and concern over a problem that we academics have already encountered - "holes" on the shelves in stacks where runs of journals are kept, often with a card signifying that copies of the journals are only available in electronic form, e.g. the "digital library". Part of the problem is that thousands of journals are "published" by just a handful of companies who bundle their titles into "big deals" covered by a single contract. In exchange for a guaranteed price, you can't cancel anything on the list that you don't want. In response to a boycott among some high-profile scientists in 2001, certain journals began offering free public access to back issues a year or more after publication, but most charge high per-view fees for recent articles. Apparently, some journal publishers insist that their online journals remain "protected" from the general public. Did you know that? Certain libraries are insisting on "walk-in" clauses in their contracts that allow any patron full access to online journals at workstations within their libraries.

Will we ever see the time when we do not have bananas? We could! Wild bananas are inedible fruit stuffed with stony seeds. Edible bananas probably first arose as random, sterile mutants containing no seeds and were propagated by cuttings from suckers sprouting on the parent plant, in other words, clones. Essentially, there are two varieties, the Gros Michel which was wiped out by 1960 and the Cavendish, virtually the only commercially grown stock available since 1963. The problem with such clones (the banana plant grows from a rhizome) is that there is little genetic diversity, and they are susceptible to diseases and are not pest-resistant (weevils, nematodes). The results are that diseases can spread very rapidly, infecting the entire crop in a short time. Chemical sprays are expensive and not always effective - kepone (chlordecone) was used for a nematode that attacked the roots and dibromochloropropane (DBCP) was used as a

fungicide until banned because it caused sterility and leukemia among workers. Other fungicides do not work for a long time because the fungus of major concern, *Black Sigatoka*, develops resistance to them, and it has largely destroyed the banana plantations in Costa Rica and in the Amazon. This fungus has attacked the Cavendish strain around the world, reducing banana yields by 50-70% and shortening the lifespan of the "tree" from 30 years to 2 years. It has been suggested that scientists need to go back to some of the less palatable, starchy, plantain-like, relatives of the banana and, with selective breeding and genetic engineering, develop new, pest-resistant, flavoursome bananas. Given that it takes a long time (bananas only pollinate rarely), we may not have bananas. Two good articles on the subject appear in the GLOBE and MAIL (Saturday, July 19th) and THE ECONOMIST (Aug.23rd).

According to THE ECONOMIST (July 26th), in an editorial and a feature article, a British panel concluded that there was no evidence that genetically modified (GM) crops now in commercial cultivation are more dangerous to human health than conventional foods. As for growing GM crops, experience outside Europe suggests that they are no worse for the environment than normal farming, and can be better - given the caveat that local conditions may have influence. Despite the scaremongering by the media, organic farmers and green lobbyists, there has been a shift in opinion and hostility appears to be declining. What will happen if GM foods, because of higher yields, become less expensive than non-GM foods? This can happen. In Southeast Asia, several countries are attempting to become self-sufficient in food, particularly in rice, and they are eager to use GM strains, both insect- and herbicide-resistant types, because of the higher yields. With selective breeding of rice in Japan, it is phenomenal the number of sacks of rice that can be obtained per hectare of land. GM foods are here to stay! Approximately 50% of soyabeans grown worldwide are GM varieties, only small amounts of maize (12%) and oilseed rape (2%) being of the modified type. In the UK, a committee will expand guidelines issued by the European Commission on how GM and non-GM agriculture can co-exist and, more importantly, who should pay if one contaminates the other. This month will see the publication of the results of 200 field trials looking into the impact of GM crops on the UK's bugs and birds.

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PRIVATE WELL WATER - A HIDDEN HEALTH RISK?

Barry Thomas, Consulting Toxicologist in Environmental Health, Tangier, NS

It is estimated that 14.7% of the population (4.6 million people) depend on private well water supplies but our

knowledge of the quality of that water is very limited. It is well known that there are many potential health hazards from well water contaminants and there are federal/provincial guidelines published by Health Canada that set maximum acceptable concentrations (MACs) for a wide range of microbiological, chemical and radiological substances (http://www.hc-sc.gc.ca/hecs-sesc/water/pdf/summary.pdf). The guidelines state that they are intended for public and private systems, although most attention is focused on public water systems since they affect the majority of the population and are a legal responsibility of government. However, many of the guidelines refer to substances that are rarely seen in surface water which is the main source of water for public systems in Canada. Groundwater is much more likely to contain significant quantities of minerals, volatile organics, pesticides and radioactive elements than surface water. The three main categories of contaminants will now be considered in order of importance as they apply to private well water supplies.

Microbiological

In theory a good well is devoid of microbiological contamination due to natural filtration through the ground. However, surveys of well water in several locations throughout Canada frequently show contamination rates of over 30%. In problem subdivisions it can often be more like 100%. A major source of contamination is on-site sewage systems that are either malfunctioning or are located too close to the well head. It has become increasingly apparent that construction of subdivisions with individual on-site sewage systems and wells can only work if the lots are relatively large and the terrain has suitable drainage characteristics. Regulation of such developments has become increasingly stringent since older subdivisions on smaller lots have often caused huge and expensive problems due to contamination of well water with sewage. The second most common cause of microbiological contamination is the well itself. Poor siting, construction and maintenance of a well can lead to surface water contaminating the aquifer and giving the full range of microbiological problems (bacteria, protozoa and viruses). If they are not properly grouted surface water can run down the outside of the well casing into the aquifer particularly if the well is also sited in an area subject to flooding after heavy rain. Aquifers can also become contaminated due to faults in the overlying rocks, etc. that lead to surface water infiltration. This can become a serious problem if it is also associated with a major source of bacteria like an intensive farm animal operation. Maintenance of a good well is fairly minimal, the main concern with a drilled well being to maintain the integrity of the casing. With dug wells, and supplies that are rich in nutrients like iron and sulphur, it may be necessary to occasionally shock the well with chlorine (bleach).

Chemical

This is an area where problems are more common than with surface water. Groundwater is naturally more highly mineralized on average than surface water. In the majority of cases the problems are more aesthetic than health-related. For example, hardness due to calcium and magnesium salts is very common but may actually provide water that is

beneficial to health. It has been shown in some epidemiological studies that heart disease is lower in areas with hard water than in comparable areas with soft water. Whether this is due to a positive health benefit from calcium or is an indirect effect due to hard water preventing the leaching of toxic heavy metals like lead and cobalt from plumbing is not known. Iron and manganese salts and sulphur containing compounds are also mostly aesthetic problems (staining and bad odours) but without any significant health benefits. Arsenic and uranium are serious health problems in areas where they occur, mostly due to the natural geology but occasionally due to mining activity. The primary toxic response to low levels of arsenic is skin cancer although it has been shown to lead to increased rates of cancer in other major organs. Most people think of uranium as a radiological hazard but if natural uranium is chronically ingested the primary health hazard is nephrotoxicity in the proximal tubule. Aquifers can be polluted with hydrocarbons from spills and leaky above ground and underground storage tanks of heating oil and gasoline. Occasionally other industries have caused major groundwater pollution problems with their activities involving such chemicals as tetrachloroethylene from dry cleaning operations or trichloroethylene from degreasing processes. This class of chemicals can cause both aesthetic and health problems. Pesticides and nutrients like nitrate can permeate into groundwater from excessive application by farmers and homeowners. By their very nature pesticides are all toxic to humans to some degree although their potency covers a wide range which is reflected in their risk assessments. The problem with all these pollution sources is that groundwater can remain contaminated for a long period of time even after the source of the pollution is removed and remediation can either be impossible or very expensive.

Radiological

This again is more likely to be a problem in groundwater than in surface water. In areas where uranium is found naturally in the ground it is more likely that other more dangerous radio nuclides will also be found. A survey of 180 schools using well water in Nova Scotia found about 14 with unacceptable levels of Pb^{210}. So far as I am aware no similar surveys have been conducted elsewhere. Radon is known to be a problem in some areas of Canada although the main concern has been indoor air contamination due to migration of radon gas through basement walls from the ground. In such cases it is common to find well water also contaminated but the amount ingested will be much less than that being inhaled.

Legally the responsibility for the safety of private wells is entirely the homeowner's so that comprehensive government-sponsored surveys are very rare. Occasionally some level of government may survey for a limited number of parameters in a given area where a potential problem has been identified. Even when governments are prepared to fund a survey the problem is that each well can be very different even from adjacent properties and some homeowners may even refuse to cooperate. There is an atmosphere of secrecy about well water problems in many rural areas due to fears about potential costs or the inability to sell a property. The cost of a comprehensive drinking water analysis involving all three

of the categories mentioned above is very expensive ($679 or $2,329 per sample, if all pesticides are included). Some epidemiological studies have been done with large populations who are using groundwater contaminated with a specific substance. The best known example is with arsenic in Taiwan where it was clearly shown that skin and other cancers were linked to the level of arsenic in the drinking water. With these exceptions we simply do not know what are the population health risks from private wells. Most well owners only rarely, if ever, have their water tested and if they do it is usually limited to a test for total coliforms and *E. coli*. Some provincial governments make a determined effort to encourage testing by making it convenient and/or subsidizing the cost. However, in the less wealthy provinces it can be both inconvenient and costly. Mortgage lenders have started to require some testing of well water before they will authorize a loan and this has unveiled many problems. It is also controversial and sometimes excessively stringent.

In public water systems the buzz words are now "*multi barrier approach to treatment*". With the development of modern technology it is my opinion that private well owners should be encouraged to have at least one barrier to microbial pathogens. Even if a coliform and *E. coli* test comes back negative there is no guarantee that it would be the same even the next day. U.V. disinfection is fairly easy to maintain and inexpensive to run. The cost, including installation, is about $750 which is a small price to pay for a safety measure. There are technical issues concerning the quality of the influent water that need to addressed when U.V. is used, and other treatment systems to deal with chemical contamination can be even more complex. It is good to see that Health Canada is again discussing regulating home drinking water treatment devices under the proposed new Health Protection Act. It would also be good to see tighter control of those who sell and install domestic water treatment systems to ensure that they are qualified and have a code of business ethics to which they must adhere. My experience is that currently there are many unqualified, and even a few dishonest, people in the business. The result is that some of the people who take their water quality problems seriously end up either with unsatisfactory systems or pay exorbitant amounts for far more technology than they need. These fairly common experiences become widely known in rural communities and result in many people ignoring their problems or not bothering to find out if they even have a problem.

What needs to be done in my opinion? Firstly, we need to know more about the extent of the problem. The Halifax Regional Municipality in a public consultation brochure on its new regional plan stated that 75% of the water from private wells in the municipality needs some form of treatment. I do not know how they obtained this figure but since they included aesthetic as well as health-related parameters I am not surprised. If this type of figure is any way representative of the situation facing 4.6 million people across Canada it would certainly be worth spending some money on a wider survey to separate fact from fiction. If a careful selection of parameters was analyzed there should be a significant reduction in the unit cost for a large number of samples. Equally important is to ensure that private well owners all receive easy to understand, unbiased information about drinking water quality and health issues and the treatment systems that are available to deal with their specific problems. Provincial governments should require certification of all well drillers, septic system installers and those who sell and instal treatment devices. Everything should be done to encourage and

facilitate homeowners to have their well water tested with guidance being given on the parameters that should be measured and at what frequency. The Federal Government needs to regulate the safety and efficacy of all treatment devices, plumbing materials and treatment chemicals which can easily be achieved by adopting and enforcing the ANSI/ NSF health-based standards for all these products that already exist.

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ELEVENTH INTERNATIONAL CONGRESS OF TOXICOLOGY, July 15-20, 2007, Montréal, Canada

Len Lillie

Planning for ICT XI is now in full swing and is progressing on many fronts. Planning and hosting an International Congress is a very large project to be undertaken by a relatively small Society as ours is. The Australians were successful with ICT IX, I expect the Finns will be with ICT X and I have no doubt that we will be equally successful with ICT XI. However it will take considerable effort by many people over several years to achieve that success.

Organization

As I outlined in the last STC News/Nouvelles, the ICT XI Organizing Committee is comprised of four principle Committees, the Scientific Program Committee with Gaston Chevalier as Chair and Robin Walker as Co-chair, the Communications and Public Relations Committee chaired by Doug Arnold, the Local Arrangements Committee chaired by Heather Durham and the Finance and Fund Raising Committee, Chair to be appointed. A scientific program of international calibre is the essence of any ICT and therefore the Scientific Program Committee will be the largest Committee with the most complex responsibilities. Now that we have begun to flesh out these four principle Committees, the original Core Organizing Committee has evolved into an Executive Committee with the responsibility of overseeing and coordinating the overall project.

In the last News/Nouvelles we issued a call for volunteers to work on the project. I am grateful to those who have volunteered. We will be in contact with you shortly to confirm your areas of interest or perhaps to try to convince you to

take on some of the roles that still need to be filled. The Organizing Committee is also very cognizant that it needs to accurately reflect the diversity of the discipline of toxicology across Canada and will be contacting additional toxicologists to solicit their participation to achieve the necessary balance.

National Research Council (NRC)

Our partner in this project is the Conference Services Office of the National Research Council. On April 13, 2003, Sheldon Roth as STC President signed a contract with NRC under which NRC will act as the Congress Secretariat and will manage the business side of the Congress. As part of their commitment, NRC will pay for the costs of the Congress, share in any profits and absorb any loss. Of course we fully expect the Congress to be financially as well as scientifically successful. Many of the activities related to the staging of a successful Congress will be shared by STC and NRC. NRC was a valued partner in the bidding process in 1998 and 2001 and we look forward to working with Laurier Forget and Pierre Lamoureux of NRC through to an equally successful Congress in 2007.

Le Palais des Congrès de Montréal

The Congress venue will be the Palais. The Palais staff, and in particular Alain Carbonneau, provided invaluable support for our Congress bids. Jocelynn Perron, Assistant Director, International Market, has been assigned by the Palais to work with us in the planning of ICT XI.

The Palais is just completing a $ 240 million expansion that essentially doubles its meeting and exhibition space. In April, the Organizing Committee conducted a detailed site visit and will now (by spring 2004) need to make decisions regarding meeting rooms and services required for ICT XI and the "flow" of the different Congress activities on different levels of the Palais. While the Palais has far more capacity than will be required for ICT XI, at this stage we will have our preferred choice of facilities.

Logo and Theme

Doug Arnold will be telling you more about the Logo and Theme for ICT XI elsewhere in this newsletter. Both the Logo and the Theme are critical elements in the image of the Congress and will be used extensively in the promotion and conduct of ICT XI. We are used to seeing logos and themes for many events and organizations and seldom give much thought as to what went into their design and selection. A few we recognize as particularly clever and imaginative. Many become part of the visual and auditory clutter of our daily lives. I can tell you that selection of the Theme and Logo for ICT XI was not an easy task and generated much intellectual *"blood, toil, tears and sweat*" at the September meeting of

the Organizing Committee. Nonetheless, the group persevered through what, for scientists, was a bit of an unusual task and I think you will be pleased with the results. Our intent is to select a final logo design that will be meaningful, distinctive and visually pleasing. I hope we have been successful, as we will all be seeing a lot of both the Logo and the Theme in the next several years.

Preparations for ICT X

The other topic that took up much time at the September 13, 2003 meeting of the Organizing Committee was preparations for ICT X, July 11-16, 2004 in Tampere, Finland. In addition to being an important scientific meeting for toxicologists in its own right, ICT X is a major milestone in the planning of ICT XI.

Promotional Materials and Activities

With the final selection of the Logo and the Theme, work will begin on the preparation of pamphlets, banners, posters, buttons and other materials for promoting ICT XI. The Organizing Committee will have a booth at ICT X and, as in the 1998 and 2001 bids, there will be contests, prizes and giveaways of Canadiana to capture the attention of delegates and get them thinking about a trip to Montréal in 2007.

Status Report

The Organizing Committee is required to make a major status report on the planning of ICT XI to the IUTOX AGM. This will include organization, plans for the Scientific Program, the Congress venue, accommodations, finances, communications and any other matters required to demonstrate concrete progress in the planning of ICT XI.

International Planning Meetings

IUTOX Guidelines for organizing an International Congress require international representation on both the Organizing Committee and the Scientific Program Committee. Both of these Committees will meet with their respective international members at the time of ICT X. Again we will be required to demonstrate adequate planning and control in the preparation for ICT XI and an appropriate international flavour to both the overall meeting and the scientific program.

ICT XI Website

One of the main tools for both promotion and communications will be the ICT XI Website. The domain name

<www.ICT2007.com> has already been protected. The intent is that the website for ICT XI will be activated approximately one month prior to ICT X.

Canadian Representation at ICT X

I encourage as many of you as possible to consider attending ICT X in Finland. We would like to have as strong a Canadian delegation as possible and a good showing in both platform and poster presentations. If you are planning to attend, please let us know, as we would like to involve you in the promotion of ICT XI in Montréal. (Please advise David Josephy, Secretary, ICT XI Organizing Committee, mailto:djosephy@uoguelph.ca.

As you can see much work has been done, and much remains to be done. While this is a big project for us, it should also be a fun project and an unparalleled opportunity to showcase toxicology in Canada.

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COUNT YOUR BLESSINGS

This was submitted to the Editor by an anonymous contributor suffering from a chronic medical condition, who wished to remind us all to stop and smell the roses, and count our blessings.

- If you woke up this morning with more health than illness, you are more blessed than the million who won't survive the week.
- If you have never experienced the danger of battle, the loneliness of imprisonment, the agony of torture or the pangs of starvation, you are more blessed than 20 million people around the world.
- If you attend a place of worship without fear of harassment, arrest, torture, or death, you are more blessed than almost three billion people in the world.
- If you have food in your refrigerator, clothes on your back, a roof over your head and a place to sleep, you are richer than 75% of this world.
- If you have money in the bank, in your wallet, and spare change in a dish someplace, you are among the top 8% of the world's wealthy.

- If your parents are still married and alive, you are very rare.
- If you hold up your head with a smile on your face and are truly thankful, you are blessed because the majority can, but most do not.
- If you can hold someone's hand, hug them or even touch them on the shoulder, you are blessed because you can offer God's healing touch.
- If you can read this message, you are more blessed than over two billion people in the world that cannot read anything at all.
- You are so blessed in ways you may never even know.

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LOGO FOR THE ELEVENTH INTERNATIONAL CONGRESS OF TOXICOLOGY (ICT XI)

Doug Arnold

The ICT XI Organizing Committee met in Montréal on September 13th to discuss, among other items, the finalization of a theme and the choice of a logo for ICT XI. With regard to the theme, when STC submitted its successful bid, the proposed theme was Toxicology: Science in Service to Society. Some were of the opinion that the Committee should revisit this topic. After considerable debate, the Committee has decided that Toxicology: Discovery Serving Society; La toxicologie: la découverte au service de la société will be our theme for ICT XI.

Regarding the logo, a total of eight people submitted one or more designs for consideration. An initial review of all the designs resulted in

four being considered in the "second round". After some discussion, the Committee decided to submit some of the design concepts to a graphic artist for incorporation into a final design. The Committee will review the graphic artist's submissions and the official ICT XI Logo will be unveiled at the STC Annual Symposium in December.

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UN LOGO POUR LE ONZIÈME CONGRÈS INTERNATIONALE DE TOXICOLOGIE (ICT XI)

Doug Arnold

Le comité organisateur d'ICT XI s'est réuni à Montréal le 13 septembre dernier pour discuter, entre autres choses, du thème final et du choix d'un logo pour ICT XI. En regard du thème, lorsque la STC a présenté sa soumission gagnante, le thème proposé était La toxicologie: la science au service de la société. Certaines personnes ont soulevé le fait que le comité devrait reconsidérer cette proposition. Suite à un long débat, le comité a donc décidé que notre thème pour ICT XI serait: Toxicology: Discovery Serving Society; La toxicologie: la découverte au service de la société.

Pour ce qui est du logo, un total de huit personnes ont soumis un ou

plusieurs dessins. Une première revue de tous les dessins soumis a réduit à quatre ceux qui ont été considérés pour la ronde suivante. Après discussion, le comité a décidé de soumettre quelques concepts de dessins à un graphiste pour les intégrer dans un dessin final. Le comité évaluera les soumissions du graphiste et le logo officiel d'ICT XI sera dévoilé lors du colloque annuel de la Société en décembre.

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A CAUTIONARY TALE

A burglar broke into a house one night. He shone his flashlight around looking for valuables. When he picked up a CD player to place in his sack, a strange, disembodied voice echoed from the dark saying "*Jesus is watching you*".

The burglar nearly jumped out of his skin! He clicked off his flashlight and froze, but when he heard nothing more after a it, he shook his head, promised himself a vacation after the next big score, then clicked on the light and began searching for more valuables.

Just as he pulled the stereo out so he could disconnect the wires, clear as a bell he heard again "*Jesus is watching you*". Freaked out, he shone his light around frantically, looking for the source of the voice.

Finally, in the corner of the room, his flashlight came to rest on a parrot.

"*Did you say that?*" he hissed at the parrot.

"*Yep*," the parrot confessed, then squawked, "*I'm just trying to warn you*."

The burglar relaxed. "*Warn me, huh? Who in the world are you*?"

"*Moses*," replied the bird.

"*Moses?*" the burglar laughed. "*What kind of people would name a bird Moses?*"

"*The kind of people that would name a Rottweiler Jesus*." replied the parrot.

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ACADEMY OF RETIRED TOXICOLOGISTS

The editor received a mailing recently from a respected STC member which may, or may not, interest retired or about to retire toxicologists. It seems that the subject of a social and representative academy of retired toxicologists has been discussed for the past twenty years. But nothing was done. Dr Yves Alarie and Dr Charles Winek, both in Pittsburgh and

recently retired with emeritus status, have acted! The Academy was formed in January, 2001. It is not incorporated, there are no dues, no application form, nor specific rules and regulations. One merely has to request membership in the organization. Plans are to meet at the various national and international toxicology meetings socially to reminisce, criticize, and lie to each other. The Academy recognizes all areas of toxicology, for example, clinical, veterinary, forensic, environmental, target organ, risk and safety toxicologists and other adjectival toxicologists. For further information e-mail drwinek@aol.com if you wish to become a Fellow of the Academy of Retired Toxicologists.

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DEPLETED URANIUM AGAIN

The risk assessment of low dose exposure to depleted uranium (DU) is again in the news after the second Iraqi war. This is a complex issue, not to be easily resolved, as one gathers from reading the article on DU in the New Scientist of April 19, 2003.

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BOOK REVIEW

Don Ecobichon

"*Watson and DNA. Making a Scientific Revolution*" by Victor K. McElheny, Perseus Publishing, 2003, pp. 363. $36.00 CDN.

With a wealth of experience in scientific writing for SCIENCE, BOSTON GLOBE and NEW YORK TIMES, McElheny has tackled the thorny question of James Dewey Watson, of Watson and Crick fame, considered to be the "bad boy of biology" by many scientists. There is a brief introduction on Watson's background - entered university (Chicago) in 1943 at age 15, a doctorate from Indiana (Bloomington) in 1950, early encounters with such mentors as Salvador Luria, Max Delbruck, Linus Pauling, and the Cold Spring Harbor laboratory environment. The author moves quickly to the Cavendish Laboratory in Cambridge, England and a concise discussion of the crucial "borrowing" of Rosalind Franklin's essential x-ray crystallographic picture, all in a chapter subtitled "*Two Smart Alecks in Cambridge*".

Of course, there is much more to Jim Watson's life "*after the helix*". McElheny pulls no punches. Watson could be generous or selfish, nice or incredibly nasty, a real pain in ----, and a highly intelligent sort of a brat. Colleagues either liked the atmosphere he created or could not stand working with him and left early on. He was focused on power and self-promotion. An opinion voiced in one chapter was "…*when Crick talked*

***about science, the issue was science, and when Jim talked about science the issue was Jim*". He was a theoretical thinker, could see the obvious application or meaning of experimental results of others but was a disaster in the laboratory himself.**

Chapters deal with: (1) his time in academia at Harvard (1955-1976) and his efforts to create modern (molecular) biology in a stagy department; (2) the Nobel Prize; (3) his indiscreet memoir, "The Double Helix" in 1968; (4) becoming director of the Cold Spring Harbor Laboratory in 1968 and its rise to become the mecca of molecular biology; (5) the cancer war; and (5) director of the Human Genome Project at NIH until he ran head-on into governmental politics over the patenting of genes, etc. and was maneuvered out of the job in 1992. There is an excellent index to assist in recovering facts that you have encountered while reading.

It is a good book, well worth reading, presenting an insight into BIG science that few will ever see or, perhaps, ever want to see. Watson is a complex character, an egomaniac who shreds weaker people but who goes to all lengths to insure that the young scientists who do the work receive full credit.

You will either like Jim Watson or not. Although outspoken on all manner of topics, he had, through four editions of his co-authored textbook, "*Molecular Biology of the Genome*", made a significant contribution to all that has passed since the double helix discovery.

McElheny has managed the difficult task of writing an objective biography of a subject who is still very much alive and, as stated in his acknowledgements, without Watson's participation. There is, however, an appended list of scientists whom he interviewed, all of whom contributed significantly to the overall picture of Jim Watson.

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SOCIETY OF TOXICOLOGY OF CANADA / SOCIETÉ DE TOXICOLOGIE DU CANADA 2003 SYMPOSIUM

Bill Casley

The 2003 Society of Toxicology of Canada Symposium will be held December 8th and 9th at the Delta Hotel in Montreal. This year's symposium addresses the theme of "Evolving Models in Toxicology", and promises to be an exciting and informative event. Toxicological research is expanding in new animal models, and significant progress has been made in *in vitro* alternatives to whole organisms as model systems and new technologies are providing opportunities to ask questions from new perspectives. This year's symposium will explore these developments, as well as present informed views on the changing environment for animal research.

The opening session will feature presentations on emerging toxicological models, to be followed by a session dedicated to exploring developing technologies that are coming to the fore in modern toxicological science. Tuesday will begin with an exploration of the exciting developments in *in vitro* alternatives to animal testing, followed by our closing session on the changing regulatory environment affecting animal research, and a special lecture on the impact of the animal rights movement by Dr. Bessie Borwein, Special Advisor to the VP-Research at the University of Western Ontario. Among our excellent slate of speakers, we are very pleased to have Dr. Edward Calabrese of the University of Massachusetts at Amherst who will present his work on the phenomenon of low dose hormesis and its implications for interpreting dose response data in model systems, Dr Frank Gonzalez of the US National Cancer Institute, who will describe the exciting developments in the use of humanized transgenic mice in toxicology and Dr Clement Gauthier, Executive Director of the Canadian Council on Animal Care, who will discuss developments affecting animal research in Canada.

In addition, we will have poster presentations of the exciting new research coming from the Canadian Toxicology community.

As in years past, the symposium offers an opportunity to hear leading researchers in their fields present their work, gain new insights into regulatory issues affecting our discipline and maintain or renew ties with colleagues from around the country.

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STC 2003 SYMPOSIUM PROGRAM

Delta Centre-Ville (777 University Street, Montréal, Quebec)

This Year's Theme: "*Evolving models in toxicology*"

Monday December 8th, AM

08:00 Registration/Inscription

08:45 Introduction, Opening Remarks: Sheldon Roth, President/ Présidente, STC

9:00 *Session 1:Emerging Models*

Chairperson/Présidente de session: Bill Casley, Health Canada

09:00 Edward J. Calabrese, University of Massachusetts, Amherst, Amherst, MA,: *"Low Dose Hormesis: Implications for Toxicological Models"* (sponsored by Réseau de recherché en santé environnementale du FRSQ (RRSE))

09:30 Karen H. Almeida, Biological Engineering Division, Massachusetts

Institute of Technology, Cambridge, MA: *"A Mouse Model to Detect Homologous Recombination by Fluorescent Reporters"*

10:00 Coffee Break/Pause Café

10:30 Sean W. Kennedy, Environment Canada, National Wildlife Research Centre, Ottawa, Ontario: "*Gene Expression Technologies - Applications to Avian Wildlife Toxicology"*

11:00 Alice Hontela, Water Institute for Semi-arid Ecosystems (WISE) University of Lethbridge, Lethbridge, Alberta: *"Clinical Implications of Aquatic Toxicology"*

11:30 Discussion

11:45-1:30 Poster session and lunch/ Session d'affichage et déjeuner

Monday December 8th, PM

Session 2: Emerging Technologies

Chairperson/ Présidente de session: Dino Manca

1:30 Frank J. Gonzalez, Laboratory of Metabolism, National Cancer Institute, National Institutes of Health, Bethesda, MD:*"P450 and Nuclear Receptor Humanized Mice"*

2:00 Carole Yauk, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario *"Establishment of a microarray facility for environmental health science research"*

2:30 Daniel Chelsky, Caprion Pharmaceuticals, Montreal, QC: *"Proteomic Approaches to Biomarker Identification"*

3:00 Discussion

3:30 STC Annual General Meeting

6:30 President's Reception

7:30 Banquet

Tuesday, December 9th, AM

Session 3: Alternatives to animal testing

Chairperson/ Présidente de session: Bill Casley, Health Canada

09:00 Daniel N. Sauder, Department of Dermatology, Johns Hopkins University, Baltimore, MD: *"Molecular approaches to contact hypersensitivity: Implications for in vitro systems"*

09:30 Malle Jurima Romet, MDS Pharma Services, Montreal, QC: *"Cell-*

Based Bioassays in Biopharmaceutical Development*"*

10:00 Coffee Break/Pause Café

10:30 May Griffith, University of Ottawa Eye Institute, Ottawa, Ontario: *"An* in vitro *model of the cornea suitable for toxicological testing"*

11:00 Tim Zacharewski, Institute for Environmental Toxicology, Michigan State University, East Lansing, MI: *"*Incorporation of *in silico* approaches into mechanistic and predictive toxicology*"* (Sponsored by the CIHR Consortium in Drug and Environmental Safety)

11:30 Discussion

11:45-1:30 Poster session and lunch/ Session d'affichage et déjeuner

Tuesday, December 9th, PM

Chairperson/ Présidente de session: Louise Winn, Queen's University

Session 4: The changing regulatory environment for animal research

1:30 Clement Gauthier, Canadian Council on Animal Care, Ottawa, Ontario: *"Emerging perspectives on the regulation of animal research in Canada"*

2:00 Andrew Rowan, The Humane Society of the United States, Washington, DC: *"A perspective on the regulation of animal research in the USA"*

2:30 Final Session: Invited Lecture

Dr. Bessie Borwein, University of Western Ontario *"The Economic Impact of the Animal Rights Movement"*

3:00 Discussion

3:00 Concluding Remarks: Sheldon Roth, President/ Présidente, STC

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FROM THE PRESIDENT'S DESK

Sheldon Roth

The recent fall meeting of the Board of Directors was held in Montreal on Sunday, September 13th, 2003. Many thanks to the members of the Board for once again relinquishing a weekend to attend the meeting. The emphasis of the fall Board meeting was, as always, to finalize the plans for the upcoming Annual Symposium that will be held December 8 & 9, 2003. Once again, the venue will be the Delta Centre-Ville. Many participants last year expressed their satisfaction with this venue and the Board was confident that it will be an ideal venue once again. Note that the 2003 meeting will be held on the Monday and Tuesday (December 8 and 9), 2003. We have also booked the first Monday and Tuesday of December up to 2006 for future meetings.

The theme for this years Symposium, "*Evolving Models in Toxicology*", is timely and will be of interest to many toxicologists. Please refer to information and notices in this issue of the STC News/Nouvelles and also on the STC website. I urge you to register early and advertise

this event widely to your colleagues and students. Hopefully, you will have received an electronic poster for the meeting. Please post this on your bulletin boards and distribute widely. The Society Banquet will be held at the hotel this year rather than at a local restaurant. This will allow us to accommodate more people, keep the costs reasonable and facilitate movement of participants. The banquet will follow the traditional President's Reception. Please note that on your registration form you will be able to purchase a ticket to the Banquet. The registration fee has been raised very slightly to cover the increase in costs, however we will be able to accept payment by credit card this year.

Over the years, I have been impressed with the ability of the Program Committee to generate exciting programs. This year, the Committee has maintained the tradition of excellence and created another exciting program. More details are provided elsewhere in this issue. I wish to extend congratulations on behalf of STC to the committee consisting of William (Bill) Casley (Chair), Dino Manca and Louise Winn. In addition, thanks to Barbara Hales and Gordon Krip for assisting in the planning.

We have been very fortunate that Michael Prior has served as Editor of the STC News/Nouvelles for the past several years. He has now completed his extra long term as Editor and I want to take this opportunity of thanking him on behalf of STC. I should point out that Michael has extended his tenure as Editor on more than one occasion as a result of mild to moderate persuasion (occasionally a bribe or two) from

various members of the Board. He has done an outstanding job of making the newsletter an excellent publication. In addition, he has contributed a number of very interesting editorials. Unfortunately Michael will not be able to join us at the Symposium this year to celebrate his retirement as Editor, therefore we extend our best wishes to him via the newsletter and look forward to his presence at future meetings. I am also happy to announce that Bill Racz of Queen's University has agreed to assume the role of Editor and we look forward to working with him.

As reported previously, we generated an electronic database for the membership list, and this will be distributed to membership in pdf format. The Board has also been exploring the development of a new website, and hopefully this will be in place in the near future. We are being very cautious about using commercial vendors that may result in significant costs to the society. The special article on "*Online Sources of Toxicology Information*" prepared by W. Racz, D. Ecobichon and M. Baril has now been published in Science Direct and is available at http://meds.queensu.ca/stcweb/www.sciencedirect.com

You may be aware that Gordon Krip, our Executive Director, has retired from Merck. We now consider Gordon as *"full time Executive Director*" for STC (although I am certain that on many occasions, Merck thought this was the situation). Gordon, we thank you for the many years of service you have provided to the Society while you were working full time, and we now look forward to having you commit *all of your time* to

STC activities! Payment remains the same (zero) without benefits, allowances, pension plan, car allowance, etc.

Members will be informed about the accomplishments of the various committees of STC in detail at the Annual General Meeting in December. At this time, I wish to express my appreciation to the members who have served on various committees dealing with science policy, membership, lobbying, fund raising and ICT XI (2007) arrangements. We always need the help of members to achieve our goals and objectives, and once again, I appeal to all members to volunteer for a committee of your choice. As well, we are still experiencing difficulty in attracting a sufficient number of new members. Please encourage your colleagues and students to join the society. The process is now very "user friendly"!

Planning for the ICT XI 2007 meeting is progressing well under the leadership of Len Lillie. Further details describing the activities of the Organizing Committee can be found in this issue of News/Nouvelles.

Have you noticed the new STC LOGO on the Symposium Poster? The original logo submitted by Patricia Solbeck was further developed by a graphic artist, and I think everyone will agree that we now have a very modern and attractive logo. Thanks to Gordon Krip for arranging the professional graphic artist to volunteer his expertise and time to the Society in designing the new LOGO.

I hope to see as many members of STC at the Annual Symposium.

Not only will it be a very exciting and informative meeting, it is still a bargain! In addition, there is travel assistance available for those students attending and presenting a poster. See this issue for details. Please encourage the "*next generation*" of toxicologists to attend the meeting and to join STC.

The Board will meet next just before the Annual Symposium. Please direct any of your questions and concerns to me or to any member of the Board.

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WHAT'S YOUR POISON?

Michael Prior

It all started at a party held some years ago. A slightly drunk guest asked what I did for a living. "*I'm a toxicologist*," I replied. "*Whatsa toxonolgist*?" he queried. *"I work with poisons.*" was my answer. "*Well,*" he said, putting his arm round my shoulders rather conspiratorially, "*I have this mother-in-law*."".....

Accidental and deliberate poisoning have occurred for millennia. Socrates (470-399 BCE) was executed by the with hemlock. In the 4th

century BCE, Livy describes a conspiracy of women to remove the men from whose death they might profit. This eventually led to the first law against deliberate poisoning, the *Lex Cornelia*, c 82 BCE). In the Renaissance, Florence and Venice used poisons for political purposes. Mimicking those Roman ladies, there was a club of young, wealthy, married women, which soon became a club of eligible, wealthy widows. In France, Catherine Deshayes, alias *La Voisine*, was convicted of well over 2,000 contract poisonings. More recently, mustard gas injured many soldiers in the First World War. Attacks using highly potent nerve gases do occur. Personal and state poisoning continue to happen today.

In case you are wondering, most murderers in Canada use sharp or blunt objects, or guns, not poisons. In fact, poisons hardly register on the list of means of murder in real life. So how about fictional murder? To find out the answer, I read 221 books or short stories by 118 mystery writers. The criterion for inclusion was that each of the 308 murders therein must have been by poisoning. Since this was a scientific study, it should include some statistics, right? The distribution of poisonings amongst these 118 authors was skewed (kurtosis 102.7 and skewness 9.9).

The primary reason for this was that 62 per cent of authors described only one poisoning. Of those who included two or more murders by poison, Agatha Christie accounted for 95 murders, or 29% of the cases. This is not really so surprising, because she trained as a volunteer pharmacy assistant during the Great War - using her healing skills.

Several times, her expert knowledge of the behaviour of drugs provided ingenious methods of operation. Despite the frequent physical violence that seems to occur in each novel, Dick Frances used poisons on 17 occasions on horses as well as people (in his books I hasten to add!). Other authors who were relatively prolific with poisons were Dashiell Hammett (12 times), Dorothy Sayers (10), Arthur Conan Doyle (8), Donald Westlake (8), M.C. Beaton (6), Robin Cook (6) and Stanton Forbes (5).

As one might expect, chemicals (43%), drugs (31%), and poisonous plants (13%), accounted for most of the poisons used by the fictional murderers. The remainder was a mixture, from animal to shellfish toxins. In some six percent of poisonings, the agent was fictional or unknown, which, I felt, was rather unsporting. The drugs and poisonous plants categories were wide ranging in content, or particular poison. Narcotics, digitalis alkaloids, and barbiturates were the most common drugs of demise. Of the chemicals, cyanide, arsenic, nicotine, and strychnine were the most popular. Interestingly, microbial toxins accounted for almost two percent of poisonings.

Some authors, most notably Agatha Christie, took care to make the poisoning an integral part of the plot. In "*The Mysterious Affair at Styles*", she describes the addition of morphine to a strychnine solution to delay absorption. The characteristics of the particular poison were often used to enhance the plot, and deepen the mystery. In contrast, some mystery writers appeared to use the poison as a shorthand way of killing off the

victim. As a toxicologist and mystery reader, this reduced the credibility of the mystery.

A common method of administration of the poison was to add the poison to something the victim would ingest naturally. For example, acid in whisky (Margery Allingham), weedkiller in brandy (M.C. Beaton), cowbane in quiche (M.C. Beaton), deadly nightshade in chocolates (Anthony Berkeley), or cyanide in champagne (Agatha Christie). There were some unpleasant variations on this theme. For example, switching an intra-gastric demo with a corrosive toilet bowl cleanser (P.D. James), of injecting a horse with isobutrazin to make it unmanageable, and so kill a person placed in the stall with the horse (Dick Frances).

In one case the murderer dosed themselves with small amounts of arsenic to build up tolerance (Dorothy Sayers). In the same vein, another murderer dosed themselves with apomorphine, so that the morphine in the afternoon tea would not affect them selves but only the intended victim (Agatha Christie). Almost mimicking real life, a tiny syringe in a seat button contained curare, the chosen poison (Anthony Berkeley).

Although not very common in real life, some actual poisonings are more interesting from the toxicological viewpoint. The use of thallium salts by a photographer, a ricin-tipped umbrella to dispose of a dissident, copper sulphate with non-fatal results on teenage girls, arsenic involving a church congregation.

The conclusion from this study of mystery writer's poisonings is that standard toxicology textbooks provide more reliable information. Though mystery books can lead to a good siesta.....

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TIME TO BE MOVING ON

Michael Prior

The newsletter of our society - STC NEWS/NOUVELLES - was started by Don Ecobichon twenty-two years ago as a means of communication amongst and between our members. In the summer of 1996, freshly retired, and barely into our new home (not even unpacked yet), Len Lillie visited to broach the idea of my taking on the editorship. A daunting challenge to follow Don, I must say. But it has been fun, due in large measure to the efforts of the members of the Editorial Committee. These stalwarts elicited articles from colleagues and friends, wrote some themselves, and altogether made my job so much easier. They also ensued a steady flow of articles in French, which is something I am glad to see. Thank you so much to all the past and present members of the STC Editorial Committee. You really kept those submissions coming. Great job, everyone!

With encouragement from Tom Massey, I learned HTML, or Hyper Text Mark Up Language. That's the language used to code the web pages. In many ways, it is a lot more fun than working in WordPerfect or MSWord. However, to make a truly interactive web site is a major undertaking. Playing around with HTML compensated for my slow computer and modem. The later got changed to a faster model, which made downloading those articles a cinch. Ah yes, those articles. The newsletter is for *all* members. So that means that *each one of you* could write something for the newsletter!

My very best wishes to Bill Racz, the new Editor. Bill, I wish you as much fun in your term as editor as I have had with the last seven volumes, 21 issues, of STC NEWS.NOUVELLES.

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CONFERENCES, MEETINGS AND WORKSHOPS

2003

Nov 3-4 Association of the Chemical Profession of Alberta. A multidisciplinary approach to assuring the quality and safety of drinking water. Canmore, Alberta. Contact: Association of the Chemical Profession of Alberta, Tel: 780-413-0004, Fax: 780-413-0076.

Nov 15-19 54th Annual Meeting American College of Veterinary Pathologists & 38th Annual Meeting American Society for Veterinary Clinical Pathology, Banff, Alta. Contact: e-mail: mailto:meetings@acvp.orgweb site: http://www.acvp.org/meetings/ Fax: 608-831-5485, Phoner: 608-833-8715 ext 145

Dec 8 - 9 Society of Toxicology of Canada. Evolving models in Toxicology. Montreal, PQ, Canada. Contact: Executive Director, Society of Toxicology of Canada, P.O. Box 517, Beaconsfield, Quebec H9W 5V1. Tel: 514-428-2676. Fax: 514-428-2676. Web site: http://www.queensu.ca/stcweb/encont.htm

2004

June 13-17 Non-rodent Species in Toxicologic Pathology, Salt Lake City, UT, USA. Contact: STP Meetings, 19 Mantua Road, Mount Royal, NJ 08061, USA

July 11-16 10th International Congress of Toxicology, ICT-X, Tampere, Finland. Contact: e-mail: ictx@tsgcongress.fi

Aug 28-Sept 3 FBI Laboratory Forensic Toxicology Symposium & Joint Meeting of the Society of Forensic Toxicologists (SOFT) and The International Society of Forensic Toxicologists (TIAFT). Washington, DC, USA. Contact: Marc A. LeBeau, Federal Bureau of Investigation, FBI

Laboratory, Phone: 202-324-8472, Fax: 202-324-4633, E-mail: mlebeau@fbi.gov Websites: http://www.soft-tox.org/ or http://www.tiaft.org/

2007

July 14-21 11th International Congress of Toxicology, ICT-XI, Montréal, Québec, Canada.

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