

science

UNB's Own Birdman

SONYA BUTTING

THE BRUNSWICKAN

Dr. Tony Diamond had always been fascinated with birds. Why birds? He says it is because they are very conspicuous, being of bright colours, active in the daytime, and they make more beautiful music than we humans do. It is also still amazing to him that something which weighs 5 grams could migrate ten thousand kilometers every year. They have extraordinary migrations and incredible navigational skills.

Another motivation for his work with birds is that UNB is paying him to study them and help others with their studies. He is a wildlife biologist/ornithologist in the biology and forestry departments.

He admitted that he wouldn't have stayed in science if he was not interested in birds; his prime interest is in birds and his second interest science.

As a scientist, he is trying to use birds as a way of understanding ecosystems. His studies are of great value in the understanding of what

is happening to the planet as a whole. By studying how birds respond to pollution, humanity can hopefully protect itself as well as the birds.

A common example is when people observed the Peregrine Falcon was becoming endangered. When it was found that the toxic contaminant DDT was killing the birds, this and many other pesticides were subsequently banned.

Many problems associated with DDT surfaced initially because of its effect on birds. This caused researchers and environmentalists alike to make the connection that if this and other pesticides are having such deadly effects on birds, they will eventually affect humans.

Dr. Diamond doubts whether the protective legislation now in effect would ever have come to be if people had not made that connection. Birds are often seen as environmental indicators of potential dangers to humanity.

With nine or ten grad students, Dr. Diamond now has a number of research projects such as: the effect that landscape

has on forest songbirds, seabird distribution in relation to oceanographic variables and their possible use as indicators for fishery stocks.

He is the senior chairperson of the Atlantic Cooperative Wildlife Ecology Research Network, an organization which ties Acadia, Memorial and UNB with the Canadian Wildlife Service. He spends the majority of his time networking and collaborating with other researchers. This work provides UNB grad students with an excellent opportunity to interact with other universities and hence an opportunity to make contacts.

Dr. Diamond feels that it is important as a young scientist to get as much experience as possible, especially with ecology because it is worldwide.

He has travelled extensively, having worked in the West Indies, islands in the Indian ocean, Britain and Africa.

For now, Dr. Diamond simply wants to help other people have as much fun with their careers as he has had.

Rooting Out Remedies

AMY MCCOMB

THE BRUNSWICKAN

Two British research groups are currently studying plant compounds which can potentially be used in the treatment of Alzheimer's disease. If it wasn't for records of their ancient uses, these plants may never have been investigated at all.

At Newcastle University, Dr. Elaine Perry is trying to extract an ingredient in sage which may slow the progress of the disease. Loss of memory is the main symptom of Alzheimer's and is caused by the gradual disappearance of a chemical which carries messages between brain cells, acetylcholine. In ancient Greece garlands of sage were worn by students during examinations to improve memory. Thus, it came as no surprise to Dr. Perry that a sage extract has the same beneficial effects as the drug Tacrine, this being the only drug currently available for treating condition although it causes liver

problems in some patients.

A compound in delphinium seeds is also currently being researched. This compound was first investigated because of the Roman writer Pliny. Pliny recommended rubbing the seeds into the scalp to remove lice; it is now known that the active ingredient is not only a potentially useful insecticide but attaches to the particular brain receptors affected by Alzheimer's disease.

Other plants have been thoroughly investigated by pharmaceutical companies but are now turning up surprises.

One example of this is the research recently done on the use of cannabidiol oil pills in treating the pain of multiple sclerosis. "However," says Fred Evans, Professor of Pharmacognosy, "it is most unfortunate that its use as a social drug has overshadowed its potential use as a medicine." At this point he will only describe the results as "interesting" - but is looking for money to carry out larger trials.

Funny Findings

Australian research shows that children who eat oily fish such as salmon and tuna at least once a week are less likely to develop asthma. But the fish must be fresh.

Of nearly 600 children studied, those who regularly ate fresh oily fish were 75% less likely to develop asthma than those who did not. It is thought that the fatty acids in fish may protect children against asthma by blocking the inflammation of airways in the lungs.

Award-Winning UNB Student does double-duty

CATHERINE AHERN

THE BRUNSWICKAN

A Biology student at UNB has taken a different approach to working for her degree. Evelyn Stillwell works as a full-time scientific technician in the biology department while studying part time working towards a masters degree in biology. Her work as a technician helps her job as a student, and also, the knowledge she gains as a student helps her role as technician.

Stillwell has a B.Sc. with first class honors in biology and psychology from UNB and a bachelor of Education from STU. She also has won a number of awards including Best Student Oral Presentation, Best Student Poster for the Aquaculture Association of Canada, and Best Student Oral Presentation at the Atlantic Provinces Council on the

Sciences.

It does not stop with awards, however. Stillwell also has three papers from her thesis research published and two more in press. Though she gives some credit to her supervisor, Tillmann Benfey: "He wants to promote students, share their research finding with other researchers, and expose them to the real world they will encounter after UNB. He is very supportive."

The praise is returned by Dr. Benfey when asked about Stillwell. "She has all the characteristics one looks for in a good graduate student - curiosity, enthusiasm, dedication, perseverance and independence. She works very hard and has made as much progress on a part-time basis as many full-time students would in the same amount of time."

Her dedication is not only towards her thesis, as she has done preparations for undergraduate teaching labs since 1992. In these labs, she is a resource person for student's projects and work. This is a role she obviously enjoys. "Working with students is one of the highlights of my job. I love working with them," she replies when questioned on her teaching role.

It would be good to see more students taking a different approach to their graduate degrees, because the combined staff-student roles increases the persons knowledge which they can then pass onto their students as Tim Dilworth, director of graduate studies in biology explains. "The more education they [staff] have, the better job they do. And Ms. Stillwell is one of the best."

Curiosity Corner

Dear Curiosity Corner: What direction does a compass point in space?

Just wondering, Thilo.

Dear Thilo,

That is a great question. There is a lot of background information you should know first.

With a terrestrial compass which is used for orienteering (so, it has nothing to do with Frodo Week), the needle is a magnet which aligns itself with the Earth's magnetic field.

The needle points towards the north magnetic pole, which is located in northern Canada, under Baffin Island. Most people make a mistake in thinking that the needle will point to the top of the world

globe. That is not true.

O.K., now that we have covered the logistics of a compass on Earth, we can go even further.

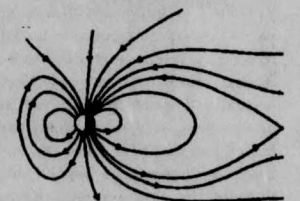
If you are venturing into outer space, the further you get from the earth, the weaker the magnetic fields are going to be.

If you happen to be in a space craft with a magnetic compass... Problems arise. You see, spacecrafts are controlled by electric circuits which generate their own weak magnetic field. Also, the metals in a spacecraft will deflect any magnetic field in its vicinity. When you add these arguments together to the fact that the Earth's magnetic field is getting weaker, a magnetic compass should not be trusted in this situation. It could point in any direction. You might end up crashing into Mars and spreading diseases to the life forms.

Now if the compass happened to be free floating in space, then the direction it is pointing depends on where it is.

The magnetic fields surround the earth, making a magnetosphere. If the

compass is anywhere within this magnetosphere, then it will point towards the Earth's magnetic north in the same direction as you see the arrows pointing in the diagram.



Outside of this magnetosphere, if it runs into the other planetary bodies such as Mercury, Venus, Mars or the Moon, the direction in which the needle will be pointing may be biased. But these magnetic fields are not very strong, so the compass will probably be directing you in any random direction.

So if you ever decide to get lost in space, my advice to you: leave your compass home.

If you have any Burning Questions or just mild wonderings, write me at is4@UNB.ca or drop a letter off at the Bruns office in the Sub.



Drew says, "It's lots of fun - bring all your friends."
 "I get butterflies!" Peter raves.
 "Kinky pictures in the darkroom! Three thumbs up!!!"
 says Pat.

general staff meetings Fridays at 12:30
 writing workshops Tuesdays at 12:30
 news department meetins Wednesdays at 3:00

SUB room 35 all are welcome

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editorial positions still available

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