



BIO-OCEANS ASSOCIATION NEWSLETTER

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FROM THE PRESIDENT

Winter is finally over ...almost! I look out my window and see the residue of our last snowstorm and the wind whipping through the trees. Ah, but the calendar says spring has arrived! While old man winter has been doing his thing, the Association has been quietly busy planning activities and events. Here are some of the highlights.

In the last newsletter, I mentioned that Roger Belanger had donated a collection of his best photos to the Association. Tim Lambert has now received the collection from the family (and adopted Roger's dog, Lulu). He and Art Cosgrove are busy scanning the photographs into digital files so that Roger's family can retain copies. I'll let everyone know when the collection is available for viewing in the BIO Library's archives.

The project headed by Keith and Carol Manchester to collect information on HMCS Sackville is coming along very well. This issue features reminiscences by Dr. Neil Campbell on the ship's history as an oceanographic research vessel. Keith and his team are now looking for photographs of the ship or her scientific history. Please contact them if you have any to offer or suggest.

Dale Buckley is taking the lead in preparing a proposal to Canada Post recommending the Bedford Institute of Oceanography's 50th anniversary in 2012 as a stamp subject. Dale has compiled a 9-page digest of BIO's structure, major accomplishments, key facilities, major vessels, and more. Once the digest has been internally reviewed at BIO, it will form a key part of the proposal sent to Canada Post. Until 2010, though, will we learn whether or not BIO's golden anniversary is in the running and until 2012 will we learn if it was one of the approximately 20 subjects they will commemorate that year. In the meantime, let's keep our fingers crossed!

Speaking of anniversaries, 2009 marks the 200th of Charles Darwin's birth and the 150th of the publication of *On the Origin of Species*. Celebrations of Darwin are happening in many parts of the world this year including at BIO and locally. In this issue, we have reprinted (p. 2) an essay from *The Globe and Mail* on why Darwin remains as relevant as ever today. Further, as noted on page 3, a Darwin lecture series will be held in the spring and fall that will be sponsored and organized by various groups including our Association. The first two Darwin lectures will be held on 4 and 5 May (see p. 11 for details).

One of the most moving stories published in this issue concerns the 1988 *Athenian Venture* tragedy in which the CSS *Hudson* was the first ship on site. The story is timely because our Association was recently contacted by some of those who lost parents in this disaster at sea (p.4).

Also in this issue, we have reprinted a thought-provoking letter on vanishing fish stocks by Paul Ruggles, a retired DFO manager, scientist, and consultant with extensive fish conservation experience (p. 7).

This issue's "Noteworthy Reads" (p.8) offers mini-reviews of a dozen books and lots of choices for a good read this summer.

Finally, be sure to take note of our upcoming events in April (p.11): a trip to the Sugar Moon maple farm on 17 April and a talk on Nova Scotia tidal power by John Woods on 19 April.

I look forward to seeing everyone at the upcoming events!

— Bob O'Boyle

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THE GODFATHER OF EVOLUTION

Michael Ruse

Reprinted with the author's permission from the *Globe and Mail Update*, 6 February 2009, as part of the celebration of the 200th anniversary of Charles Darwin's birth on 12 February 1809.

How to read Darwin? Should we read Darwin? Here are a couple of good questions to ask as we come up to the 200th anniversary of the birth of English naturalist Charles Robert Darwin, the author of *On the Origin of Species*, published in 1859, who is rightly known as the father of evolutionary theory, the person who first fully articulated and promoted the mechanism, natural selection, that guides evolutionists in their work today.

Answer the second question first. Should we read Darwin? Well, at the very least we should know something about him and his ideas. There are certain defining moments and thoughts in the history of humankind, about which any reasonable, educated person should have least some notion and understanding. It would be easiest to say that such a person should have read and thought about all of the 50 great books that *The Globe and Mail* has just been highlighting, but 40 years of university teaching has left me, let us say, experienced in the way of the world, and I doubt there are many takers on that proposition.

But at a minimum, I would say that one should have a grasp of Plato's theory of forms, of the life and message of Jesus, of (jumping somewhat) the Copernican revolution and (as someone long an Ontario resident and a summer visitor to Stratford) the plays of Shakespeare, and ... Well, you can fill in the rest down to the present. I would add the works of Charles Dickens, but if you insisted on

Stendhal or Goethe or Tolstoy, I wouldn't complain.

The idea of evolution – Darwin wasn't the first to think it up, but it was he who made it commonsensical – is about as big as you can get. We did not exist eternally, as the Greeks thought, and we were not the miraculous creation of a Good God on the sixth day, as the Jews thought, but rather we are the end products of a long, slow, natural process of development, over (as we now know) the past four billion years, from blobs and perhaps ultimately from minerals. If that doesn't blow your mind, what will? The tragedy of American creationists is their failure to see that, if anything proves that we humans are made in the image of God, it is our ability to work out that story. As Thomas Henry Huxley used to say, we are modified monkeys, not modified dirt, and it was Charles Darwin that proved this.

But should we read Darwin himself and, if so, how? Let me start by saying that there are many of Darwin's contemporaries that the Victorians devoured with enthusiasm whom I find positively unreadable today. Essayist Thomas Carlyle, with his pseudo-Germanisms and heavy Scottish humour, is one. Herbert Spencer, in his day wildly more popular than Darwin and author of books on biology, psychology, religion, sociology – you name it, strikes me as hollow and long-winded. Volume after volume of pretentious sermonizing on very little evidence. Darwin, however, is still very readable.

Part of the reason is that, unlike the average academic, he did not write solely for the average academic. Fabulously rich, mainly from the profits of the Wedgwood pottery company – from back in the days when it was well run

and had not gone into bankruptcy – Darwin wrote with his sponsors in mind, his father (a physician and in his own right a very successful middle man for mortgages between aristocrats, who needed cash, and industrialists, with cash to lend) and his uncle Josiah Wedgwood, a gentleman farmer, a member of Parliament and the son of the firm's founder.

This intended audience comes through very strongly in Darwin's first literary success, *The Voyage of the Beagle* (published in 1839 as *Journal and Remarks*), a travel book based on his five years (from 1831 to 1836) as ship's naturalist on board HMS *Beagle* as it mapped its way around South America before returning home via a trip across the Pacific and then to Australasia and to South Africa. A dreadful victim of sea sickness, Darwin spent much time on land, travelling across Brazil, Argentina and the other counties of the continent.

Darwin was always interested in the flora and fauna, ever fascinated by the geology (especially of the Andes) and truly intrigued by the peoples and their personalities, and his book is simply a terrific read. Based on his diaries and letters for consumption by his family back home, the *Voyage* speaks directly to the reader and you are caught up in the excitement of travel and the simple joy of being aware of the world in which we live. The book was loved back then, and it is rightly in print today. I don't have to sing its praises. I found at least 15 editions on amazon.com, admittedly an order of magnitude less than Jack London's *Call of the Wild* – a shaggy doggy story with strong Darwinian under-and-over themes – but proof of its lasting appeal.

What about *The Origin of Species* itself,

the book on which Darwin's reputation rests? I am a prof, so you would expect me to say that you should read it. What about normal people not driven by the desperate-to-be-seen-as more-learned-than-the-next-fellow forces that guide us academics? I would still say that it is worth the effort, although I am not really sure that "effort" is the right word.

First, make sure you get the first edition of the *Origin*. These days, this is the edition usually reprinted. Darwin re-wrote his work, through six editions, and by the time he had finished, a rather elegant work had become overloaded with diversions and qualifications, a bit like Christmas tree with too many decorations. You can tell if you have the first edition, because Darwin speaks of his mechanism only as "natural selection." The alternative, "survival of the fittest," a coinage of Spencer and urged upon Darwin by the co-discoverer of selection, Alfred Russel Wallace, comes only in the later editions.

Second, try to take in the book as a whole. If you get bogged down a bit, then skip on – read the précis at the end

of the chapter and go forward. Darwin referred to the book as one long argument, and that is the truth. Note three things. First, Darwin mixes up the argument for the mechanism, natural selection, with the argument for evolution itself. He never really separates them, so you must do this. Second, the big argument for selection comes at the beginning of the book, with the analogy from breeding, cows and sheep and bulldogs and so forth. After that, it's basically application. Third, and this is the really powerful part of the book, the part that convinced Darwin's fellow Victorians, is the case for evolution made in the second two-thirds of the book, as Darwin works through the various issues and facts about the living world: instinct, the fossil record, geographical distribution, systematics (classification), anatomy, embryology and more.

Again and again, Darwin picks on some biological fact: Why are the bones in vertebrates as different as humans and porpoises nevertheless so similar? Why are the denizens of the Galapagos Archipelago similar to but slightly different from those of the mainland South America (and not like African forms)?

Why do older and older fossils seem more and more to incorporate features of an ever-wider range of living organisms? Again and again, the answer comes through: because of evolution! And this in turn confirms the hypothesis of descent. As in a court of law, the accused's guilt explains the clues; the clues confirm the guilt.

The argument is terrific, but you have to read it in the original to see just how good it is. You won't be disappointed. You will see just how subtle a thinker Darwin really is, and why his achievements make you proud to be a fellow human. He lies buried in Westminster Abbey, next to the great Isaac Newton. He is still celebrated by being the figure on the back of the British £10 note. He is fully worthy of the honour we pay to him on the 200th anniversary of his birth.

Michael Ruse is one of the world's leading authorities on the history and philosophy of Darwinian evolutionary theory. He is the author of many books, most recently: Darwin and Design (2003), Darwinism and Its Discontents (2006), and Evolution: The First Four Billion Years (2009).



Charles Darwin: A Celebration

"Lecture Series commemorating the 200th anniversary of Darwin's birth (12 February 1809) and the 150th anniversary of the publication of his masterpiece *On the Origin of Species* (24 November 1859)"

This lecture series by some of the leading authorities on Darwinian evolutionary theory and its impact on science and humankind is to celebrate Charles Darwin, the man and scientist, and his approach to the understanding of the natural world. The series comprises a number of lectures in the spring and autumn, 2009. The series is sponsored and organized by the Nova Scotia Institute of Science, Dalhousie University, St. Mary's University, Bedford Institute of Oceanography (Centre for Marine Biodiversity), and BIO – Oceans Association, and is open to anyone with an interest in science and the godfather of evolution, Charles Darwin. See "Upcoming Events" on page 11 for details on the spring presentations (4 and 5 May) and later newsletter issues (July and October) for the autumn talks.

RECALLING THE TRAGIC LOSS OF THE *ATHENIAN VENTURE*

Michael Latrémouille

Editor's Note: The account below has been compiled from online information posted by the Emergency Response Division, Office of Response and Restoration, National Ocean Service, National Oceanic and Atmospheric Administration, US Department of Commerce [see <http://www.incidentnews.gov/incident/6568>] as well as recollections and reports from various individuals: Jennifer Hackett, Ross Hendry, Gregory MacLellan, David Morse, Roger Pettipas, and the official statements of Captain Loran Strum.

Shortly after midnight on Friday, 22 April 1988, David Morse, officer of the watch on the Canadian Scientific Ship (CSS) *Hudson*, altered course toward “something in the night sky that did not look quite right”. The vessel had left the Bedford Institute of Oceanography on 20 April headed for the Grand Banks of Newfoundland to carry out physical oceanographic studies under Chief Scientist Ross Hendry.

At 0300 hours, Captain Loran Strum was called to the bridge as *Hudson* approached to within 13 nautical miles of what he later described as “a bright light, which appeared to be a vessel on fire”. The captain sounded the general alarm to get everyone aboard on deck and set in motion preparations for locating and rescuing any survivors. As she drew closer, Coxswain Greg MacLellan remembers that the *Hudson* had to navigate between spots of burning fuel to approach and that the heat of the flames forced him to move from a spot on the *Hudson*'s bow to a stern position as they approached the flaming bow of a vessel that they still could not identify.

What happened that calm morning was that the *Hudson* was the first vessel to find the burning tanker *Athenian Venture* some 400 miles (643 km) southeast of Cape Race, Newfoundland. The stricken vessel had apparently experienced a violent explosion, broken in two, and was on fire when *Hudson* first arrived on the scene. The *Athenian Venture* had been en route from Amsterdam, Netherlands, to New York, USA, with a cargo of approximately 250,000 barrels of unleaded gasoline. The vessel was drifting at 40°38'N, 51°09' W, and the bow and aft sections were approximately two miles (3.2 km) apart when found. The bow section sank at 1400 hours on 22 April 1988. The aft section continued to drift on fire for the next 7 weeks, finally sinking on 17 June 1988 about 200 miles (322 km) from the Azores.

Automotive gasoline is a very light, refined product with an API gravity of 60 to 63. Overflights by survey aircraft on 22 April discovered a slick area of 0.5 by 4 miles (0.8 by 6.4 km). However, most of the gasoline burned in the extensive fires. The remaining oil dissipated very rapidly, most of which was lost to evaporation. Weather conditions immediately following the accident were good, with high visibility and calm seas.

As the first ship on the scene, the *Hudson* conducted initial searches around both sections of the vessel and searched down wind without finding survivors or debris. Subsequently, the United States Coast Guard coordinated rescue efforts with the Canadian Coast Guard. Five airplanes and



These photos of the Athenian Venture were taken from the CSS Hudson in the early hours of Friday, 22 April 1988. (Photo on the left courtesy of Paul Stead, on the right of Roger Pettipas.)

seven merchant vessels participated in the two-day search for survivors.

The *Athenian Venture* had a crew of 24 Polish seamen, and the wives of 5 crew members were also on board. Initially, it appeared that one of the lifeboats was missing from the vessel, but later it was found that all the lifeboats had burned. No survivors were ever found, and all 29 people were presumed dead. Forty-three children were orphaned as a result of this tragedy and 12 of them lost both parents.

In February 2009, the BIO - Oceans Association was contacted by Mr. Sebastian Szulkowski seeking information on the disaster on behalf of the surviving families. Sebastian was nine and his brother six when both of his parents died aboard the *Athenian Venture*. In 2008, Sebastian explained, the orphaned children and their families had united their efforts to erect a monument to the relatives they lost in a cemetery in Szczecin, Poland's largest seaport on the Baltic Sea.

They also expressed a wish to contact Captain Strum's family so that they could write to them to communicate their sincere thanks for his diligent efforts on the day of the disaster. Lastly, Sebastian asked for any information that we could provide to help them to better understand how the tragedy unfolded.

Thanks to the efforts of Gregory MacLellan, some of Sebastian's questions have been answered. Greg called Sebastian in London, England, where he is currently studying and over an extended conversation explained the role *Hudson* played on that fateful day. Of course Greg could not shed light on what may have led to the accident, but he did contact Captain Strum's family and paved the way for Sebastian's group to contact them. In addition, Greg copied and forwarded to Sebastian a series of records in his possession including official statements made by Captain Strum and himself pertaining to the incident as well as copies of media stories published in Canada on the *Athenian Venture* tragedy.

SOME HIGHLIGHTS OF HMCS SACKVILLE AS AN OCEANOGRAPHIC RESEARCH VESSEL

Neil J. Campbell

Editor's Note: One of 120 corvettes built in Canada during WWII, the HMCS *Sackville* was retired from military service after the war and used subsequently as a training ship and later as a Canadian Naval Auxiliary Vessel (CNAV) to conduct oceanographic research in the 1950s and 60s. Today, the ship is maintained and operated by the nonprofit Canadian Naval Memorial Trust (CNMT) whose objectives are "to preserve and maintain the 'Last Corvette' in her 1944 configuration as Canada's Naval Memorial". The BIO - Oceans Association is currently assisting the CNMT in compiling information on the oceanographic history of the *Sackville* for their web site (<http://www.hmcssackville-cnmt.ns.ca/>).

The *Sackville* was used as an oceanographic research vessel by the Atlantic Oceanographic Group (AOG) in the 1950s in Saint Andrews, New Brunswick, and in the 1960s in Halifax, Nova Scotia. In the late fifties, she worked principally on the Georges Bank, Scotian Shelf, and Gulf of St.

Lawrence conducting seasonal cruises up to four times each year.

In 1957, the *Sackville* underwent a major refit in Montreal before undertaking a major cruise for the 1958 International Geophysical Year (IGY). Her role then was to run a series of deep-sea oceanographic stations from Bermuda to Baffin Bay. These stations were a first for the ship and took as long as 5-6 hours each to complete. The cruise took almost four weeks with refueling stops in Halifax, Nova Scotia, St. John's, Newfoundland, and by tanker in Frobisher Bay, Nunavut.

The *Sackville's* next major undertaking found her serving the International Commission for the Northwest Atlantic Fisheries (ICNAF) as one of three Canadian vessels involved in a multinational oceanographic survey of the Grand Banks and the Scotian Shelf. After the ICNAF surveys, the *Sackville* worked for two summers with the *Vema*, a Columbia University research vessel. The two ships conducted seismic

surveys in the Gulf of St. Lawrence and off the east coast. Both the *Sackville* and *Vema* visited the US naval base at Argentia, Newfoundland, to take aboard additional explosives. The *Sackville*, an RCN naval auxiliary vessel, was welcomed, but the *Vema*, flying a Panamanian flag, was shunned and cordoned out of bounds. Exchanging scientists between the two ships was not a simple task in this circumstance!

In the early 1960s, the *Sackville* underwent a major scientific refit. New wet and dry laboratories were built on the aft upper deck. The wet laboratory housed a New England Trawl winch, Knudsen bottles, and other over-the-side gear. The dry lab was set up with a new deep-sea EDO echo sounder with a Westrex chart recorder.

The sounders were fitted to the *Sackville* in Lunenburg, Nova Scotia. The ship was hauled up on the slip close to midnight because of the high tide, but the blocks were not secured due to the

lateness of the hour. Shortly after the crew and scientists had turned in, the cable or chain used to haul the ship up on the slip broke and she slid down in shallow water becoming firmly stuck in the mud with a 30° list to port!

I was called early in the morning by the Queen's Harbour Master and told the bad news. Fortunately, no one was hurt, but all aboard were badly shaken up. When I arrived on the scene, it looked like the end of *Sackville* and there was talk of cutting her up. Two naval tugs were dispatched from Halifax and she was pulled out of the mud and righted herself. She was towed to the Dartmouth shipyards and put up on blocks once again for inspection. Miraculously, only one stern bottom plate was dented – there were no breaks or fractures in the hull. A new plate was simply welded on over the dented plate and the echo sounders were installed. The whole nightmare was over in less than two weeks and the *Sackville* was back in the water, ready to carry on.

The new echo sounder was put to good use by Doug Loring on bottom surveys in the Gulf of St. Lawrence. These surveys found that echo-sounder returns recorded on graph paper reflected the morphology and general composition of the sea floor. Bottom sampling and coring were used to identify the sediments and Doug was able to map the morphology and sediments of the Gulf. He identified a large deposit of optical quality sands and sediments that were home to the shrimp and snow crab. This latter association was a very important find for commercial fisheries. A mining company from Montreal made an application to the Quebec government for rights to extract the optical sands. The application was turned down because it was thought that the sands were non-renewable and their loss would impact the lobster fishery of the Magdalen Islands.

One of the well-planned *Sackville*

cruises to the Gulf of St. Lawrence went awry through no fault of the Chief Scientist, Dr. Ron Trites. Its purpose was to measure the flow of water through Belle Isle Strait. Ron prepared lighted driftfloats, colour-coded for depth of water of the attached vane and, of course, when released, the direction and speed of drift. In addition to this technique, Ron purchased enough

deck to see for himself what was going on. He discovered that the red floats were often called green and green floats called red. He queried the one observer on duty and, much to the surprise of both of them, they discovered that the observer was in fact colour blind!

The GEEK experiment in Belle Isle Strait was also fraught with problems.



electrical cable to stretch across Belle Isle Strait, thus establishing a geoelectromagnetic kinetograph or (GEEK). It measured the flow of water across the cable using the principle of an electrical conductor (seawater) moving through a magnetic field (earth).

The challenge for the ship's crew was to lay the cable across Belle Isle Strait without breaking it, which they did. The float project was undertaken under calm evening conditions. Spotters were assigned to the starboard and port sides of the bridge and reported on the location of the floats at regular intervals. When things got underway, Ron noticed that the pattern of float drift was incoherent and erratic. He puzzled over this situation and finally came up on

The noise level was such that it masked the current signals. Ron fretted over this for weeks until he found out that sun-spot activity had been at its peak during the experiment and this was why noise levels were enhanced. Ron was discouraged over the whole venture and not sure he ever wanted to return to Belle Isle Strait again!

Most of the crew on *Sackville* were Newfoundlanders and at their request we always dedicated one oceanographic station as a fishing site. It was always well-located for jigging cod. Scientists and crew alike would spend most of the day jigging for cod which were immediately salted down in barrels of brine. During the day we were well-treated and rewarded with delicious, freshly fried, cod cheeks.

WHERE HAVE ALL THE FISH GONE?

Paul Ruggles

Reprinted from the Letters section of The Chronicle Herald, 14 March 2009.

There has always been a repetitive call from fish biologists for more funding to conduct scientific research to improve fishery management decisions. Certainly, more funding for research will improve fishery management outcomes, but there is a more pervasive problem that negates even good fishery science from being effective.

Local, regional and international fishery management organizations have a long, consistent record of failure when it comes to protecting fish and other marine resources. Worldwide fish abundance continues to decline, in some instances to near extinction. Declines in fish abundance are all linked to local, national or global failures in governance of complex ecological systems. Political emphasis on the plight of the fishermen, rather than the fish, is at the heart of why almost all the world's fisheries are in trouble. Of course, fishermen – not fish -- vote.

Although many specific fishery management problems cry out for attention, their solution will not correct the underlying problem of a pervasive political dominance controlling fishery management decisions worldwide. For the most part, enough scientific knowledge is available to set prudent levels of fish exploitation for all the important world fisheries. Unlike global warming, the science of fish stock collapse is old and its practitioners pretty much in agreement since the 1950s. The trouble has always involved how to allocate the harvest among competing fishermen while providing for sufficient spawning escapement. The result has been the adop-

tion throughout most of the world of bureaucratic and technocratic mechanisms heavily influenced by political considerations. The challenge lies in crafting new local, regional and international fishery management institutions, not in filling the scientific knowledge gaps.

There is no real trade-off between long-term economic benefits and fish conservation. The trade-off is always between short-term and long-term thinking. Short-term concern for the plight of the fishermen has always influenced politicians more than the long-term plight of the fish. The result is that fish stocks continue to decline. The world's record of fish stock management is one of dismal failure with repeated, ritualistic handwringing, at local and global meetings that never resolve the fishery management problems.

Emphasis on socio-economic benefits rather than fish conservation has led to overfishing in almost all instances. This is not to suggest that fish conservation trumps human needs, but that fishery science should have a more decisive impact on fishery management decisions. The idea of "enlightened self-interest" underlying current methods of fisheries management should be tempered by increased concern for survival of healthy fish populations. The plight of the fish resource must not be compromised by the plight of the fishermen. Without fish, there will be no fishermen. A fact known too well by 40,000 Newfoundlanders who once earned a livelihood from a cod fishery that had sustained them for centuries.

The structures and organizations set up by politicians and industry to control fisheries, or even preserve the most endangered species, have entirely failed.

Politicians broker deals to pacify the fishing industry focusing on short-term fixes rather than long-term stewardship of the resource. Fish catch quotas are consistently set above those recommended by fishery scientists. The model of industry-political control for regulatory bodies just doesn't work.

Chronic overfishing can be seen as political failure to secure public interest in the long-term health of fish populations. This failure is the fundamental cause of overfishing and must be addressed and removed before measures can be implemented that might reach the goal of sustainable fisheries. Sustainable fisheries require a major shift from the existing emphasis on the socio-economic outcomes of fishery policy, to a scientifically-derived fish conservation outcome. The best hope for greater sustainability of fisheries is to insulate scientific management of the fishery from political pressures for greater harvest.

Scientists have warned that the loss of so many commercial marine species is eroding the viability of marine ecosystems and their ability to resist environmental stresses. Without greater mobilization against the short-sighted self-interest and greed devastating the world's ocean resources, the wonders and sustenance of the sea are in jeopardy. The time has come when fish, more than fishermen, need nurturing and protection, and when science, rather than politics, should allocate fishing exploitation levels. The world cannot afford to lose such an important source of protein or ignore the potential impacts on ocean ecosystems.

Paul Ruggles is a retired DFO manager, scientist, and consultant with worldwide fish conservation experience spanning 50 years.



NOTEWORTHY READS: BOOK REVIEWS IN BRIEF

David N. Nettleship
Book Review Editor

The *Noteworthy Reads* section is an effort by BIO-OA to produce a representative list of recent noteworthy book publications related to the marine sciences and other subjects of general interest. The listing is not intended to be comprehensive or complete, but merely an attempt to highlight a number of 'good reads' that may be of interest to OA members and associates. Most books listed are available at local bookstores and public libraries. Book prices are regular retail in Canadian funds, but discounts of 20-30% are normally available on line at: e.g., amazon.ca or chapters.indigo.ca. Contributions of book reviews to 'Noteworthy Reads' are welcome – send via e-mail to David Nettleship: dnnlundy@navnet.net (phone: 902-826-2360).

SPECIAL PUBLICATION:

SPRING: THE JOY AND WONDERMENT OF BIRDS

Birkhead, Tim. 2008. *The Wisdom of Birds: An Illustrated History of Ornithology*. Greystone Books, Douglas & McIntyre Publishing. Vancouver, BC. 437 pp. Hardcover, \$42.95 (ISBN 978-1553654261). – With spring comes the wonderment of birds and "*Zugunruhe*", the migratory urge exemplified by intense activity in birds, sometimes in ourselves. If you already enjoy the presence and activities of our feathered friends, or are a beginner contemplating taking up birding as a recreational pursuit, then this exceptional volume by renowned ornithologist Tim Birkhead is for you! Watching birds has been a pursuit of mankind from prehistoric times, with the oldest records from the Upper Paleolithic: sketches of cranes or herons on the walls of caves occupied by the Aurignacians in southern France and Spain some 17,000 to 18,000 years ago, along with figures or incisions carved on pieces of horn, bone and stone. Like today, these early people derived enjoyment and stimulation by watching and learning about birds. In *The Wisdom of Birds*, author Birkhead first sets the tone of the work by a most insightful preface on what makes birds fascinating both as subjects of study and of pleasure. From this comes a short but comprehensive overview of the historical background of ornithology, from its bird watching and folklore beginnings to the development of a true science discipline. British naturalist John Ray (1627-1705) is credited with being the first scientific ornithologist, a fact supported by the evidence presented that shows how Ray's approach laid the foundation of the scientific study of the bird world. The reader is then taken on a journey through the biology of birds -- from egg to chick, instinct and intelligence, migration, timing of breed-

ing, territoriality, bird song, sex and promiscuity, reproduction and longevity – a journey like no other, one that fascinates, excites, stimulates with the surprising volume of facts, interpretations, and ideas presented in a clear and easily digested manner. The explanations of bird behavior and biology that pour out reveal the passion the author has for the subject, as do the captivating anecdotes and stories that appear through the narrative. Birkhead is a skilled teacher and has a knack for making difficult topics and technical matters easy to understand, and demonstrates throughout the book the drama and joy of scientific discovery. In addition, the more than 100-colour illustrations presented, many rare and previously unpublished, are outstanding and have been carefully selected and integrated within the text. The study of birds and its history have never been told this way before, a fact that makes *The Wisdom of Birds* both educational and entertaining, and a "must-have" book for everyone interested in birds and those seeking "Wisdom".

GENERAL REVIEWS

Bowen, Mark. 2008. *Censoring Science: Inside the Political Attack on Dr. James Hanson and the Truth of Global Warming*. Plume Books (Penguin Group), New York, NY. 324 pp. Hardcover, \$31.00 (ISBN 978-0525950141). – This expose of the decades-long battle NASA climate scientist James Hanson experienced in his quest to alert the public and their governments about the perils of global warming is frightening and disturbing. That the US federal government applied "gag orders" to prevent the scientific findings of Dr. Hanson's researches about global warming from being made public is astounding. Writer and physicist Mark Bowen has provided an invaluable service to people at large and a pointed message to future government administrations not to censor and suppress critical information. Bowen paints an admirable portrait of Hanson and his NASA colleagues, their struggle to get the truth about global warming and its consequences out into the public domain, and through this process provides an in-depth analysis of politics and government science. The message is made clear to all of us!

Coady, Lawrence W. 2008. *The Lost Canoe, a Labrador Adventure*. Nimbus Publishing Limited, Halifax, NS. 243 pp. Softcover, \$20.00 (ISBN 978-1551096582). – In 1910, Englishman Hesketh Prichard and a small group of adventurers set out across the daunting Labrador landscape. Ignoring local advice, they wound up climbing five-hundred meter cliffs with a canoe in tow – a brutal portage. The canoe was later abandoned and cached somewhere along the route. In *The Lost Canoe*, author Larry Coady embarks on a modern-day quest for the long-lost vessel. Starting at Nain and relying on Prichard's rough maps and vague geographical details, Coady and companions manage to retrace the original

1910 expedition all the way to Indian House Lake on the George River deep in the Labrador interior. More than simply the chronicles of explorers crossing an unforgiving subarctic environment, *The Lost Canoe* is in many ways the story of the region itself: its fascinating natural history, its diverse cultures, and its unforgettable characters. The result is both an enlightening history and a highly entertaining adventure, deeply evocative of Labrador as it once was and in many ways still is. A fisheries biologist by training, Larry Coady retired in 2001 from a 30-year career with the Department of Fisheries and Oceans and Environment Canada which included serving for several years as Science Director for the Newfoundland and Labrador Region in St. John's. A keen hiker and photographer, he is a member of the Newfoundland Historical Society. As is evident in this book, he is enjoying an active and productive retirement. Does he find the lost canoe? Read the book to find out! (Donald Gordon)

Darwin, Charles. 2009. *The Voyage of the Beagle*. National Geographic, Washington, D.C. 466 pp. Hardcover, \$28.00 (ISBN 978-1426203916). – This complete and unabridged edition of Charles Darwin's classic travel memoir of his five-year voyage (1831-36) as a naturalist on the H.M.S. *Beagle*, first published in 1839, is part of National Geographic's celebration of the 200th anniversary of Darwin's birth. *The Voyage* is Darwin's first-hand account of his travels to South America, vivid descriptions of the exotic lands visited, and copious observations on the geology, people encountered, and flora and fauna including those of the Galápagos archipelago that led to his revolutionary theory of natural selection. Added to this amazing work of travel and natural-history writing is an insightful introduction by nature writer and biographer David Quammen that aptly sets the scene for what follows, and maps prepared by National Geographic cartographers allow the reader to trace Darwin's movements. This journal represents travel adventure and discovery at its finest!

De Roy, Tui, Mark Jones and Julian Fitter. 2008. *Albatross: Their World, Their Ways*. Firefly Books, Richmond Hill, ON. 240 pp. Hardcover, \$49.95 (ISBN 978-1554074150). – A stunning, highly illustrated book of albatrosses – the true voyagers of the sea, renowned for their enormous wingspan and global migrations. The work is divided into 3 parts: "Spirit of the Oceans Wild" (by T. de Roy), "Science and Conservation" (by M. Jones and 17 other authors), and "Species Profiles" (by J. Fitter). Topics covered range from summaries of the distribution and abundance levels of the 14 recognized albatross species, and the recent DNA analyses that indicate that there may be up to 25 species, to details of general biology, reproductive ecology and behaviour, feeding habits, migratory movements, and conser-

vation issues. Albatrosses, as a group, are endangered worldwide with only two species not listed as threatened or endangered. Together, this volume provides an outstanding look at this ancient and fascinating family of seabirds, the Diomedidae (Albatrosses), rich in legend, myth and exploitation.

Dutton, Denis. 2008. *The Art Instinct: Beauty, Pleasure and Human Evolution*. Bloomsbury, London, UK. 288 pp. Hardcover, \$ 24.00 (ISBN 978-1596914018). – Here is a witty and entertaining book, elegantly written, that attempts to bring art and science closer together. Dutton, a prolific essayist and critic, addresses the question of the origin of art and why it has evolved within human cultures. He argues that art-making and its beauty is embedded in our genes and evolved through the process of Darwinian sexual selection as a means of display of fitness (physical and cognitive) to potential mates. A provocative and controversial thesis? Yes, but overflowing with fresh and stimulating ideas that provide an insightful look at the role art plays in our lives today, regardless of its origins.

Grant, Peter R. and B. Rosemary Grant. 2008. *How and Why Species Multiply: The Radiation of Darwin's Finches*. Princeton University Press, Princeton, NJ. 218 pp. Hardcover, \$43.95 (ISBN 978-0691133607). – This book, in the Princeton Series in Evolutionary Biology, summarizes the findings of 34 years of study by the authors about the origin and evolution of new species through the study of the finches made famous by Charles Darwin from his experiences in the Galápagos Islands in 1835. The Grants, two pre-eminent evolutionary biologists, trace the evolutionary history of the 14 different species, all derived from a common ancestor, showing how repeated processes of speciation occurred by adaptive change through natural selection on beak size and shape, and song. Their work vividly shows how the laboratory tools of developmental biology and molecular genetics combined with field observations and experiments can answer fundamental questions about evolution and the biodiversity of the world. This is a must read for anyone interested in evolution and adaptive radiation, and the basic questions of how and why species multiply.

Heiligman, Deborah. 2009. *Charles and Emma: The Darwins' Leap of Faith*. Henry Holt, New York, NY. 268 pp. Hardcover, \$20.95 (ISBN 978-0805087214). – We know Charles Darwin by his intellectual genius, from the memoirs of his 5-year voyage around the world as a young naturalist aboard the HMS *Beagle* and his discovery of speciation through natural selection as presented in his 1859 masterpiece: *The Origin of Species*. But in this book, author Deborah Heiligman takes us on a thought-provoking examination of Darwin the man, from his early assessment of the pros and cons of marriage and settling down through to the develop-

ment of his theory of evolution and its impact on the scientific and religious communities, and his personal life and marriage: his wife Emma, was very religious and her faith was a major challenge to Darwin. Overall, this book is a very readable exploration of 19th century British society, science and religion, and how Charles and Emma's love for each other made a successful marriage of science and religion.

McGonigal, David (ed.). 2008. Antarctica: Secrets of the Southern Continent. Firefly Books, Buffalo, NY. 400 pp. Hardcover, \$59.95 (ISBN 978-1554073986). – A beautifully illustrated volume (with more than 600 maps, photographs, and illustrations) that provides a thorough overview of a continent. It includes the prehistory of Antarctica, its geography and geology, climate and nature of ice, flora and fauna, the explorers, the Antarctic ozone hole, current scientific research, conservation issues, impact of climate change, and the Sub-Antarctic Islands. The information presented is comprehensive and up-to-date, summarized by an expert team of scientists – geologists, ecologists, biologists – and polar historians, to honour the International Polar Year: 2007-2008. In addition to the science, details are also given on the Antarctic Treaty, current issues of land entitlement, laws and treaties, resource exploitation, shipping transportation, and tourism. This book on Antarctica and the Antarctic Islands could not be more timely.

McGoogan, Ken. 2008. Race to the Polar Sea: The Heroic Adventures and Romantic Obsessions of Elisha Kent Kane. HarperCollins Publishers, Toronto, ON. 381 pp. Hardcover, \$34.95 (ISBN 978-0002007764). – Ken McGoogan, arctic biographer and writer of major works on northern heroes: John Rae (*Fatal Passage*, 2002), Samuel Hearne (*Ancient Mariner*, 2004), Lady Jane Franklin (*Lady Franklin's Revenge*, 2005), now fully uncovers the aspirations and accomplishments of Elisha Kent Kane, giving him his rightful place in the annals of arctic history. Kane, as a young American doctor from Philadelphia, sought fame in the high arctic by trying to determine the fate of the lost Sir John Franklin expedition and the existence of the fabled 'polar sea' at the North Pole. He spent 16 months as surgeon on the first U.S. Grinnell Expedition, 1850-51, and published his personal narrative of the voyage in 1853 to great acclaim. His second venture north, this time as leader of the Second Grinnell Expedition, 1853-55, was extremely productive. He established a farthest north record, discovered the route to the North Pole, and recorded important observations on ice conditions and wildlife, along with the recognition and adoption of Inuit practices for survival. In the end, Kane's vessel became trapped in the ice and had to be abandoned. He led most of his crew to safety covering 1,300 miles in 83 days by sledge, dogsled and small open boats, one of the most spectacular escapes in arctic history. In 1856, just one year after

his return to New York, his two-volume narrative *Arctic Explorations* was published and became an instant best-seller. But tragically, soon after its appearance, Kane died of a heart condition at the age of 37, and after a short period of public mourning he was forgotten. Ken McGoogan's *Race to the Polar Sea* sets the record straight, not only by underlining the amazing known accomplishments of Elisha Kent Kane, but also by revealing new material from lost journals, manuscripts, and personal notes written by Kane and only recently found by the author. This is an important book that everyone interested in Arctic America must have on their shelf, both arctic specialists and aficionados.

Niemeyer, Mark. 2008. Water: The Essence of Life. Sterling – DBP Inc., New York, NY. 192 pp. Hardcover, \$32.95 (ISBN 978-1844837199). – Are you concerned about water availability and quality? This book provides the answers not only to these two important questions, but provides a overview of water and its importance to humankind and all other living organisms – author Mark Niemeyer emphasizes the simple fact that without water, there would be no life. The more than 120 stunning colour photographs are captivating and show the incredible beauty of water, its diversity of forms and sources, uses by humans, and the wonders of major rivers, great lakes, and oceans on the planet. But it is the clear and well-written text that reviews the science, cultural history, and mythology of water. It also outlines the many problems of pollution and conservation needs, and underlines the threats posed to its continuous availability from global warming and the politics of water. The central message in Mark Niemeyer's timely book on water – its conservation and protection -- must be heeded and acted upon to sustain living systems as we know them.

Whitehead, Hal. 2008. Analyzing Animal Societies: Quantitative Methods for Vertebrate Social Analysis. University of Chicago Press, Chicago, Illinois. 336 pp. Softcover, \$28.95 (ISBN 978-0226895239). – Researcher Hal Whitehead is a professor in the Department of Biology, Dalhousie University, in Halifax, Nova Scotia, and the author of *Sperm Whales: Social Evolution in the Ocean*. In this his most recent major work, Whitehead shows how animal societies can be studied, and how these social systems can be viewed, measured and described. The application of a conceptual framework for analyzing social behaviour is essential to our understanding of biological organization in animal groups and to studies of behavioural and evolutionary biology. The techniques outlined can be applied to many different animal groups, and examples are presented using real data from studies on bats and primates to cetaceans and birds to demonstrate their applicability. This handbook is mandatory reading for all workers studying animal relationships and social behaviour of vertebrate groups.

UPCOMING EVENTS

FRIDAY, 17 APRIL 2009 – DAY TRIP TO SUGAR MOON FARM

The Association is planning an afternoon outing to Nova Scotia's award-winning Sugar Moon maple products farm in Earl-town, Nova Scotia.

We will be meeting there at 12:30 pm for a traditional sugar camp meal of whole-grain buttermilk pancakes and maple syrup, local sausages a fresh biscuit and maple butter, as well as a cup of fair trade coffee. Lunch will be followed up (optionally) with a guided tour of the maple sugar camp and interpretive area; a self guided hike to the sugar woods, and a taste of sugar on snow, and maple shopping.

The full cost is \$15 per person including taxes and gratuities. Grandchildren, relatives, and friends are welcome to attend. Each participant will be responsible for their own tabs. The farm is a 90-minute drive from Halifax and detailed instructions on getting there can be found at www.sugarmoon.ca

To help reserve our places, please let Clive Mason or Iris Hardy know if you are planning to attend – see p. 12 for their contact information.

SUNDAY, 19 APRIL 2009 - “SECURE AND SUSTAINABLE ENERGY FOR THE FUTURE: TIDAL POWER DEVELOPMENT IN THE BAY OF FUNDY”

A lecture by Mr. John Woods, Vice President of Energy Development, Minas Basin Pulp and Paper, 2:00 pm, Main Auditorium, Bedford Institute of Oceanography, Dartmouth, NS.

Mr. Woods will review the engineering and environmental studies currently underway in the Minas Basin in support of potential tidal power development using in-stream turbines.

Refreshments will be served. There is a voluntary donation of \$1.00 per person to help offset the costs of refreshments.

MONDAY, 4 MAY 2009 – “WHAT WAS DARWIN DOING ON 4 MAY 1859?”

A lecture by Dr. Brian Hall, Dalhousie University, 7:30 pm, Faculty Club, Dalhousie University, Halifax, NS – First lecture in the special “Charles Darwin: A Celebration” 2009 lecture series (see p. 3). The evening presentation at the AGM of the Nova Scotia Institute of Science is open to NSIS members and the general public: everyone is welcome.

TUESDAY, 5 MAY 2009 – “DARWIN: DISCOVERING THE TREE OF LIFE”

A lecture by Dr. Niles Eldredge, American Museum of Natural History (New York), 1:30 pm, Main Auditorium, Bedford Institute of Oceanography, Dartmouth, NS – Second lecture in the special “Charles Darwin: A Celebration” 2009 lecture series (see p. 3). Lecture follows a musical tribute to Darwin by Symphony Nova Scotia which starts at 11:30 am. Everyone is welcome.

IN MEMORIAM

Ralph Murray Cameron, on 23 January 2009, aged 86. Much of Ralph's 35-year career charting Canadian waters was spent at BIO from which he retired in 1984.

Gerald Francis Connolly, on 27 February 2009, aged 87. Gerry worked in the Metrology Division's Instrument Machine Shop during his

career at BIO from 1963 to 1986.

Florence Gilda MacLaren, on 27 February 2009, aged 82. Florence was employed in the personnel section at BIO for 36 years beginning in the early 1960s.

James “Jim” Albert Rippey, on 4 February 2009, aged 81. Jim joined

BIO in 1967 and served on BIO ships before retiring as Chief Engineer of CSS *Hudson* in 1987.

Donald E. Waldron, Jr., on 6 January 2009, aged 51. Don was a Marine Biologist with the Department of Fisheries and Oceans from 1973 to 1977 in Newfoundland and from 1977 to 1993 at BIO.

WANTED – A NEWSLETTER EDITOR

In 2010, this newsletter's Editor will 'retire' after 10 years at the helm. The Association is now seeking a new Editor to join a team of volunteers and friends who help put together a 12-page newsletter published 4 times a year.

Enthusiasm is the only qualification needed. Working between 10 and 30 hours per issue every 3 months is the major demand. The Editor

is responsible for guiding each issue into production. He or she coordinates the work of the authors, graphic designers, printers, and volunteers who handle distribution, and can choose to handle any aspect of the production directly.

The BIO – Oceans Association Newsletter is our primary communication vehicle and the newsletter editor can be assured of the help and support of the Association's Board at all times.

In this position, the Editor will enjoy all of the

benefits of the best voluntary positions, namely: to meet people & make new friends; to put spare time to good use; to gain new experiences or learn new skills; to do something enjoyable; to make use of existing skills; to build confidence & take on new responsibilities; to be valued, appreciated, and feel useful; to gain a sense of achievement; to put something back; and to do something of special or personal interest.

Please contact us if you are interested in the position or in learning more.

ABOUT THE ASSOCIATION

The Bedford Institute of Oceanography Oceans Association was established in 1998 to foster the continued fellowship of its members; to help preserve, in cooperation with the Institute's managers and staff, BIO's history and spirit; and to support efforts to

increase public understanding of the oceans and ocean science. Membership is open to all those who share our objectives. Most current members are present or past employees of BIO or of the federal departments of Environment, Fisheries and Oceans, and

Natural Resources (or their predecessors) located in the Halifax Regional Municipality. Membership is \$10.00 per year, \$40.00 per half decade, or \$150.00 for a lifetime membership.

OFFICERS AND DIRECTORS

PRESIDENT	Bob O'Boyle	835-6065(h) 446-1301(o)	bcubed@accesswave.ca
VICE-PRESIDENT	Don Gordon	469-3278(h) 426-3278(o)	gordond@mar.dfo-mpo.gc.ca
VICE-PRESIDENT	Charles Schafer	861-3145	charlestschafer@hotmail.com
PAST PRESIDENT	Betty Sutherland	454-6557	jesuther@dal.ca
SECRETARY	Iris Hardy	861-4797	bob.iris@ns.sympatico.ca
VICE SECRETARY	David McKeown	477-5887	davidmckeown@hfx.eastlink.ca
TREASURER	Bob Reiniger	477-9833	rreiniger@hfx.eastlink.ca
DIRECTORS AT LARGE:	Bob Cook	868-2948	bobheather@eastlink.ca
	Gordon Fader	455-6100	gordon.fader@ns.sympatico.ca
	Mike Hughes	860-0784	hughes@accesswave.ca
	Timothy Lambert	426-3872	lambertt@mar.dfo-mpo.gc.ca
	Carol Manchester	861-3509	c.manchester@ns.sympatico.ca
	Georgina Phillips	823-3401	tandgphillips@eastlink.ca

COMMUNICATIONS: NEWSLETTER, PR, AND WEB SITE

NEWSLETTER EDITOR	Michael Latrémouille	434-4036	latremouille@accesswave.ca
ASSOCIATE EDITOR	David Nettleship	826-2360	dmnlundy@navnet.net
PR AND MEMBERSHIP	Clive Mason	426-4163	masoncs@mar.dfo-mpo.gc.ca
WEBMASTER	Bosko Loncarevic	468-3392	infocd@cd-books.com

COMMITTEES/WORKING GROUPS: CHAIRS

BELUGA AWARD	René Lavoie	826-2175	rene.lavoie@ns.sympatico.ca
BIO COMMEMORATIVE STAMP	Dale Buckley	434-5734	dbuckley@ns.sympatico.ca
EQUIPMENT ARCHIVES	David McKeown	477-5887	davidmckeown@hfx.eastlink.ca
GRAPHIC DESIGN	Art Cosgrove	443-7945	acosgrove@hfx.eastlink.ca
HMCS SACKVILLE HISTORY	Keith Manchester (contact)	861-3509	k.manchester@ns.sympatico.ca
LIBRARY ARCHIVES	Bosko Loncarevic	468-3392	infocd@cd-books.com
PHOTO ARCHIVES	Michael Latrémouille	434-4036	latremouille@accesswave.ca
SOCIAL PROGRAMS	Gordon Fader	455-6100	gordon.fader@ns.sympatico.ca