MARITIME ROOTS
HERITAGE LECTURE

Joint Annual Meeting
Entomological Society of Canada - Acadian Entomological Society
Fredericton, N.B., 7 October 1996

by Douglas C. Eidt and "Company"

I am honored to have been asked to give the Heritage Lecture this year, although I suspect it has something to do with my age. They overlooked the fact that, as one ages, memory is the second thing to

go. To remedy the memory problem and to make this Lecture more interesting, I have consulted five people and asked each one to speak about a Maritimer who made major contributions to that which we call our heritage. The five speakers have themselves made important contributions to our branch of science and to our heritage.

The accomplishments of the pioneers we will hear about are well documented. We hope to give you fleeting glimpses of these people as interesting personalities, and of the times and circumstances in which they worked - a lighter look.

First, to set the stage, I will give you a brief outline of the development of entomology in the Maritimes. I say the Maritimes, because Ray Morris gave an excellent account of the early history of entomology in Newfoundland and Labrador at the 1989 meeting (Bull. ESC 22:50). Maine, which is an integral part of the area of the Acadian Society, has also been left out only because this is a Canadian Society meeting. Maine's entomological history, particularly as it relates to coniferous forest, potatoes, and blueberries, parallels that of the Maritimes very closely.

Entomology in the Maritimes.

The earliest entomological activity in the Maritimes, as elsewhere, was amateur collecting. Most of the collections were sent to Europe and information is sparse. The earliest documented activity I can find is of a Lieutenant Redmond, who collected insects, mostly Diptera, in Nova Scotia about 1830, which were deposited in the British Museum. Not until 1864, did Thomas Belt publish a list of butterflies observed in Nova Scotia in the Transactions of the Nova Scotia Institute of Science. Other amateurs of the late 19th century, and into the next, were Andrew Downes, Lucy Eaton, Matthew Jones, Harry Piers and Arthur Silver in Nova Scotia and William McIntosh of the New Brunswick Museum. The most active of them all, seems to have been Joseph Perrin of McNabs Island in Halifax Harbour. He was an active amateur from the early 1890s until 1936 who contributed to the fledgling Canadian National Collection and also participated in some of the early scouting for invading brown-tail moth.

With their thriving maritime trade the Maritimes in particular were subject to invasions of alien plants and soil insects. For example, of 32 species of composite plants growing in the vicinity of St. Andrews N.B. in 1907, 24 were introductions from Europe. Ships' ballast deposited on the shores was a major source of introductions. Others hitchhiked in cargoes, personal chattels, stowed away, or were deliberately introduced. Both alien and native species expanded their ranges as land clearing created suitable habitat.

Colorado potato beetle outbreaks first occurred in Nova Scotia in 1882, when for the first time government authorities played an active role in organizing control of a pest. Before that farmers were pretty much on their own, although some interest in insect control was shown by the N.S. Journal of Agriculture, founded in 1865. The first instruction in entomology was probably that in 1885 by Prof H.W. Smith at the Normal School in Truro. A School of Agriculture was established in Truro in 1888, the predecessor of the Nova Scotia Agricultural College, which has served the Maritime Provinces since 1905.

The brown-tail moth was the alien invader that led to the establishment of federal laboratories at Bridgetown N.S. in 1911 (moved to Annapolis Royal in 1915 and to Kentville by 1952) and at Fredericton N.B. in 1912. Many other introductions: gypsy moth, San Jose scale, European cornborer, balsam woolly aphid, European spruce sawfly and many others; adaptation of a *Rhagoletis* on hawthorn to become the notorious apple maggot; head-to-head competition with spruce budworm to harvest New Brunswick soft-

wood, led to rapid growth of entomological activity. The search for parasites and predators was intensive, particularly because of the alien pests, and was largely responsible for the early development of this branch of entomology in Canada. The need for strict quarantine in the Maritimes to prevent further introductions led to the formation of the Plant Protection Branch of Agriculture Canada. The laboratory at Charlottetown, P.E.I., was established by Fred Cannon in 1937, the Island Province having been served before that from Fredericton.

Among the early workers were Robert Matheson at Truro, J.D. Tothill, R.P. Gorham, and L.J. Simpson at Fredericton, and George Sanders, Arthur Kelsall, Alan Dustan, and Fred Gilliatt at Annapolis Royal. Many went elsewhere to establish illustrious careers: Matheson to Cornell, Tothill to the British Colonial Service, and Dustan to the Field Crop Unit in Ottawa. Indeed a veritable exodus involved J.M. Swaine, Ed Reeks and Malcolm Prebble to the Forest Biology Division, Ottawa, W.N Keenan founder of the Plant Protection Branch in Ottawa, Edna Mosher of the University of Illinois, A.B. Baird a father of modern biological control at the former Belleville Parasite Lab, McBain Cameron first director of the Insect Pathology Research Laboratory at Sault Ste. Marie, H.G. Crawford, Dominion Entomologist, G.G. Dustan at Vineland, L.G. Saunders at the University of Saskatchewan, Jimmy Marshall at Summerland B.C., and many others. I have dug rather deeply into the past such that, to my knowledge, only three of the people I have mentioned are still living. The recent past is more familiar.

At this point I would like to introduce all five of my collaborators all of whom are still living, and will continue this Heritage Lecture without interruption from me.

First is **Dr. M. Ellen MacGillivray**. In her career with Agriculture Canada at Fredericton, Ellen became a world authority on aphid taxonomy, and made many contributions in pest management, particularly of aphids and plant viruses in potatoes. For her scientific contributions she was awarded the DSc (*honoris causa*) by the University of New Brunswick in 1981. Ellen was President of the ESC in 1976-77, and has served on many of its committees. She retired in 1980. Ellen will tell us about her friend and mentor **Jean Adams**, a leader in a then almost exclusively male profession.

Second is **Dr. George M. Strunz**. George is a natural-products chemist and an invaluable member of the Forest Pest Management team at Canadian Forest Service Atlantic in Fredericton where, unencumbered by entomological dogma, he brings a unique perspective to entomological problems. George will talk about **Dr. R.E. Balch**, with whom he shared many interests, not the least, a strong interest in the visual arts.

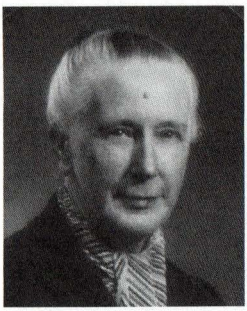
Third is **Dr. Vernon R. Vickery**, Emeritus Curator of the Lyman Entomological Museum and Laboratory on the Macdonald Campus of McGill University. Vic is a world authority on Orthoptera, on which he has and still is producing stacks of publications. He is an Honorary Member of the Acadian Entomological Society and a former Editor of the Canadian Entomologist. As a native Maritimer and a longtime "Mac" staffer, Vic knew **Dr. W.H. Brittain** well. He has consented to share some of his observations with us.

Our fourth speaker is **C. Roger MacLellan**. Roger retired from Agriculture Canada, Kentville, Nova Scotia, in 1978, and again in 1983 from Insect and Mite Monitoring Service, Kentville, of which he was a founding partner. Roger was a member of **Allison D. Pickett's** team during its holistic study of the ecology of apple orchards and their pests. In other words, he was there when IPM was invented. Some of us would have killed for such a privilege. Roger was made an Honorary Member of the Acadian Entomological Society and of the Nova Scotia Fruit Growers' Association for his part. What was it like to

work with Pickett? Roger knows.

Finally, **Edward G. Kettela**, Project Leader for Integrated Forest Pest Management with the Canadian Forest Service Atlantic, will tell us about **B.W. Flieger**, applied pest manager, and one of the most colorful characters ever to be involved in entomology in the Maritimes. Ed knew him well, having been involved in the same line of work from the research and monitoring side. Ed hardly lacks color himself. I think he knows everybody ever involved in forest pest control, what is going on wherever, and where to scrounge the resources to get things done. A master storyteller, we'll save him until last.

Jean Catherine Robertson Burnham Adams
1913 - 1994
by M. Ellen MacGillivray



It is fitting that Dr. Eidt wished Jean Adams to be included in this heritage lecture. In 1945 she was involved with the successful revitalization of the Acadian Entomological Society and served as Vice President. It was she who reviewed the history of the Acadian Entomological Society for its golden anniversary in 1965 (Atlantic Advocate, August 1965, pp. 38-39,41,43).

In private life Jean had many interests: her garden, TV hockey, the Toronto Maple Leafs, and Star Trek. She seldom missed TV coverage of space flights often bringing her portable to the office.

She devoted herself tirelessly to the community which she loved. She was a charter member of the Fredericton Tree Commission in 1952 and served the city as an alderman for eight years (1956 to 1963) and as Deputy Mayor for one year. For many years she chaired the Planning Advisory Committee of Greater Fredericton during which the first long term plan for the City was conceived.

But that's not all: she served on the Board of the Victoria Public Hospital, and on the advisory council of its School of Nursing for several years from its beginning in 1968. She was a lay member of the New Brunswick Registered Nurses Association, a charter President of the Fredericton Business and Professional Women's Club and later President of the New Brunswick Federation of Business and Professional Women's Clubs. Jean was a member of Fredericton Heritage Trust, the Conservation Council of New Brunswick and the Fredericton Society of Saint Andrew, one of its first female members. She served as President of the Fredericton Council of Women and was a charter member of the Fredericton Library Board, the York Regional Library, and the Provincial Library Council. In 1979 she received the Fredericton Chamber of Commerce Distinguished Citizen Award for service to the Community.

For those who did not know her she belonged to the era of Baird, Balch, Crawford, Dustan, Keenan, Maxwell, Pickett, Ross, Seamans, and Simpson. Although younger, she was one of them. Barney Flieger was a close friend to her and to her husband.

Jean was born in Fredericton in 1913. She was proud of her Scottish ancestors who settled in the highlands of the upper St. John River Valley in the 1870's and survived, although ill prepared, the rigors of their first winter. As you will see, Jean too was a survivor.

In the early years of the great depression, money was scarce. With the help of a Fredericton Society of Saint Andrew Scholarship and student employment she graduated in 1935 from the University of New Brunswick with a BA degree and a major in Biology. She had to walk to classes almost the entire length of Fredericton.

Jean's interest in entomology began when she was a student, like so many others, with her first summer job. She often recalled, with a smile, how as an innocent student she knocked politely on the front door of the Entomological Laboratory on the University of New Brunswick campus to report for work. At that time the laboratory housed Field Crop, Forest and Fruit Insect Investigations. Her first assignment as a student was counting midges in clover blossoms for R.P.Gorham. R.P. himself could be considered a heritage figure, a demanding supervisor prone to depressions which could be frightening to a young student.

Later, Jean became involved in the early research on aphids infesting potatoes. At that time, potato leaf roll disease was causing potatoes to "run out" and there was limited information about the relationship of the aphid vectors and disease transmission. Little was known about the biology of the aphids.

During her summer employment she developed many interests in natural history and recalled the wonderful canoe trips up the Nashwaak River collecting dragonflies with entomologist Carl Atwood, the father of Canada's outstanding author, Margaret Atwood. Jean was Margaret's babysitter.

Jean was invited to continue her studies in biology at the University of Maine, Orono, and was awarded a scholarship for Maritime students. There she received her Master's degree in 1936. While at Orono, she came under the influence of Dr. Edith M. Patch who at that time was one of the world's most outstanding aphid biologists and systematists, and the first woman president of the Entomological Society of America. Although Dr. Patch was small in stature she was a strong determined woman, much admired by Jean for her leadership and philosophy of research and life. It was at that time that strong relationships were developed between the Maine and New Brunswick potato-aphid-virus researchers.

In 1937, Jean discovered colonizing green peach aphid, *Myzus persicae* on pin cherry and choke cherry. *M. persicae* is now known to be the primary vector of potato viruses. Dr. Patch coached Jean in aphid identification and in 1938 Jean published the first list of aphids of the Maritime Provinces.

Jean continued her research at the University of Toronto while working towards a doctorate which, as it turned out, she was too busy to complete. On her return to Fredericton she did not rejoin Field Crop Insects but became part of the staff of the Plant Pathology Laboratory located at the Experimental Farm. The year was 1941 and she tried to enlist but as an Agricultural researcher she was frozen in her job. Later in the year she married Nelson Adams, a young naval officer. To do this she required permission from her "Ottawa" bosses and was given notice that there would be no further advancement for her. A woman in the Civil Service was one thing. A married woman was a different kettle of fish!

Her research on the potato aphids expanded to the aphid-host relationship and the possibility of breeding potato varieties resistant to aphids. This concept received little support from the plant breeders. Soon after the conclusion of World War II, she co-operated in a preliminary study with Dr. George Stirrett on the control of aphids on potatoes using DDT. This study was continued with Pete Matthewman in the Woodstock area of Carleton County making use of several students who later would become part of her research staff.

In 1946, after the death of Mr. Gorham, Jean was appointed Officer-in-Charge, Field Crop Insects

and had the onerous task of bringing together the staff and research of her predecessor (aphid trapping, vegetable insects) along with her own research and summer staff.

Being a married woman in the federal service placed even more pressure on her to succeed. This was also the era of veterans' preference. For three more years, this lady administered an office in Fredericton and directed research there and at a field station in Woodstock sixty miles away, commuting by bus. To continue this research and to avoid the political patronage interference common to Carleton County, she arranged the purchase of property close to the Experimental Farm.

In the meantime the summer students, after their graduation from University, became part of her staff. She co-ordinated their research to include studies in potato insect susceptibility, aphid biology and systematics, virus vector relationships, and potato insect control. In 1950, the Field Crop Insect Unit was moved to the Experimental Farm where, for nine more years, she and her staff operated out of the header-house of a new greenhouse built under her direction. She was a good administrator and research director, protective of her staff, always ready to listen to their problems, research and personal, tolerant of their idio-syncrasies, outspoken, but kind.

In 1959, when Science Service Laboratories were consolidated with Experimental Farm Services into the Research Branch, Jean was invited to resume her own research. This is a polite way of saying that those persons who had administered laboratories under Science Service (Adams, Maxwell and MacLeod) came under the supervision of a PhD still wet behind the ears. Fortunately, with her proven determination, Jean was able to develop a program and continued her research for another seventeen years. Several times she considered returning to university to finish her graduate studies.

Her first investigation after her administrative career was a study of the affect of herbicides on grain-infesting aphids and their coccinellid predators. It was no easy task for a woman now in her late for-ties to start over again. She had assigned all the choice research projects to her former employees.

Jean was especially interested in the role of salivary enzymes and their relationship to aphid feed-ing, virus transmission, and potato response. She succeeded in modifying a sophisticated electronic method for measuring aphid feeding and applying it to determine the acceptance (susceptibility) of the potato to the aphid's feeding. She believed that the acceptance-rejection response held great promise for genetic application and the incorporation of resistance into potato varieties, which ultimately could lead to reduced use of pesticides and less plant damage by aphids and the virus diseases they carry. Even in the late 1960's the plant breeders had little interest in her proposals. Then, their response was that insecticides were available to look after the insect problems.

Jean's contribution to aphid research was recognized internationally. But the highlight of her career came in 1975. All of Canada recognized her greatness when she was chosen, with eighteen other women, to be honoured for her work by the National Museum of Natural Sciences as its contribution to International Women's Year.

Jean's husband, Nelson, is a graduate in Forestry from the U. N. B. Throughout their married life he shared her interest in natural history and encouraged her to pursue her research and civic responsibili-ties. They had no children but they indulged their nephews and nieces.

Jean Adams was a strong advocate of women's rights and equal pay for equal work. Several times she, with other Business and Professional Women's Club members, approached the provincial government

of Hugh John Flemming on this issue. She did not consider herself a feminist but believed that everybody should be respected as a person and should be allowed to perform at their own level of competence. Even with the discrimination shown her, I'm not sure that she would accept the principles of today's affirmative action.

She survived the system without rancour and has left a legacy on which many researchers have built their own careers. Despite being frozen in her job, despite warnings of no promotions after marriage, despite giving up her research to administer over twenty employees and a research farm only to be returned to research and directed by those she previously directed, she persevered. Her successful accomplishments in an area of research where few women had previously entered, places her among the pioneers of successful female scientists.

Reginald Ernest Balch
1894 - 1994
by George M. Strunz

Members of the Entomological Society of Canada will associate the name R.E. Balch with his definitive studies on the balsam wooly aphid and its effects on balsam fir, as well as his outstanding contributions to the ecology and biological control of the European spruce sawfly.

Indeed, one cannot talk for long about Reg Balch without referring to his career as a visionary scientist and science administrator, but I would like to focus on some of the other facets of his life that may not be so familiar to the present generation of entomologists.

Reg was born in England in 1894, and received his basic schooling there. His lifetime spanned close to one hundred years, and one of his early memories was of seeing Queen Victoria in a carriage drawn by four horses in stately procession down London's Strand. As a six or seven-year-old, he was bitterly disappointed, less by her somewhat unprepossessing appearance than by the fact that she was not wearing a crown which, he felt, every self-respecting monarch ought to do!

Reg Balch came to Canada in 1913, planning to try his luck at farming, but fulfillment of this ambition was interrupted by the outbreak of World War I and, in 1914, he enlisted in the Canadian Field Artillary because, as he explained, he liked horses. After serving as driver and gunner, he was "promoted" to the rank of "Supernumerary Acting Bombardier Without Pay!" Although generally reticent in public (and private) about his experiences during the war, which included three years enduring the horrors of the Front in waterlogged, muddy, rat and lice-infested trenches, he occasionally could be persuaded to reminisce about this period of his life as he was when, in 1990, he gave an interview on the subject with Halifax artist Geoff Butler. This interview was recorded on film, along with archival footage, in a documentary entitled "Where Duty Leads", produced and directed by Angela Baker with National Film Board involvement. In the film, Balch recalls that "The High Command was, to us, something of a mystery. We hardly ever saw a general...." although he remembers he was "startled by one in the trenches on two occasions". He remembers the occasion when his unit was reviewed by Field Marshal Haig, who left little inspiration but the recollection of "beautifully polished boots and well-cut riding breeches". Lord Byng, on the other hand, with his concern for the men's conditions made a better impression.

His experiences at the Front, as a young man, had a profound influence on Reg's feelings about war

and society, and his own interactions with others as well as with his surroundings. He emerged, as a convinced humanist and pacifist, with the conviction that "aggressive species are a misfit in Nature's Scheme... The species that survive" he says, referring to Darwin, "have been those which could adapt to their environment and live in harmony with the other species that shared their environment." It is likely that his wartime experiences kindled the first stirrings of his consciousness of "the mutual relations between organisms and their environment". These ideas were to occupy a central position in his philosophy of life and his work, and crystallized into a form lucidly accessible to the layman, in his five half-hour lectures collectively titled "The Ecological Viewpoint", broadcast on the CBC Radio "University of the Air" series in 1965. The series was published by CBC and has been through at least three printings.

He was demobilized in 1919 with a gratuity of $500, which was used towards beginning his post-secondary education at the Ontario Agricultural College (now a college of the University of Guelph). After graduating in 1923, he held a number of positions, including fire-ranger in Northern Ontario and then research assistant to the renowned American entomologist F.C. Craighead, "a splendid fellow". These influences, his inquiring mind and his love of the forest were inevitably directing him towards the distinguished career in forest entomology that he went on to pursue. He was employed as a forest entomologist with the US Department of Agriculture while completing his requirements for the MS degree which was awarded to him by the State University of New York at Syracuse in 1928.

In 1930, Reg Balch and his wife, Martha, moved to Fredericton, when Reg accepted an appointment as Officer-in-Charge of the Dominion Entomological Laboratory (later the Forest Biology Laboratory).

During his tenure of this position from 1930 to 1959, he conducted, directed, and fostered work that led to a fresh approach to the study of population dynamics of forest insects and to recognition of the importance of insect diseases as mortality factors. The fact that some streets in Fredericton are still graced by magnificent elm trees, more than 100 years old, can be attributed to Reg's success in persuading the City of Fredericton to take vigorous action to minimize, by sanitation measures, the effects of the Dutch elm disease epidemic that swept eastern North America, reaching the Maritimes in the 1960s. He was awarded the PhD degree by the State University of New York at Syracuse in 1948.

His passion for science made him, during the 1930's, an active participant in Fredericton's Science Club. Other members at the time included his friends, University of New Brunswick Professors Frank Toole and Bryan Priestman. This association brought him into contact with notable scientists such as Julian Huxley and Linus Pauling. The general concurrence of philosophy, political views and interest in science of Toole and Balch with those of Pauling, and their mutual enjoyment of good discussion, evolved into a cordial friendship.

Reg's other major interests led him to be a participant in the Canadian Institute of International Affairs, and to be an enthusiastic supporter of New Brunswick artists: He counted among his close friends the eminent potters Kjeld and Erica Deichmann, the painters Lucy Jarvis, Bruno and Molly Bobak, and others. As a gifted and sensitive artist himself, with the camera as his chosen vehicle for expression, it was natural that he should enjoy the company of other artists.

Photography became an important part of Reg's life and, in later years, while he always considered himself an amateur, his camera became almost as much a part of him as his ever present pipe! Harold Hathaway, in his preface to Reg's book of photographs, *Celebrations of Nature*, published in 1991 when he was in his mid-nineties, quotes him, "The part of photography I enjoy best is carrying a camera, look-

ing for pictures. You look more closely at the world around you and your eyes are opened to much of beauty and interest that would otherwise go unnoticed." He had a special intuitive gift that enabled him to recognize subjects that he could transform into beautiful and evocative images. He preferred to work with black and white film, which may have been a subconscious form of abstraction, but more importantly allowed him in his darkroom to process the film under conditions where he could himself exert some control over the developing image. Some of his pictures have been published in professional photography journals, and his book, *Celebrations of Nature*, was preceded by an earlier collection, *A Mind's Eye*, in 1985.

Reg has received a number of high honours for his contributions to science and society from academic, professional and civic institutions: Lists of these have been compiled elsewhere.

I first came to know Reg and Martha, and their son, Norval and daughter, Cynthia, shortly after my arrival in Canada as a graduate student in 1959. Two or three years later, I became one of a succession of privileged graduate students from overseas to take up residence in the back room of their home at 102 Alexandra Street. This led to development of a warm friendship between the Balches and, eventually, three generations of my family, after they visited and travelled with my parents in Ireland. Some of my happiest times as a young man were spent with Reg and Martha at their beloved camp at French Lake. Reg was proud that his woodlot contained trees and plants belonging to every species growing in New Brunswick, and I learned much from them about the life of the woods.

Until well into his nineties Reg was in excellent physical condition. Indeed even in his eighties he could paddle a canoe or swing an axe as well as anyone I knew. When chopping wood, to make up for his relatively slight stature and to give the axe more momentum, he developed a technique which involved performing a little jump or hop as the axehead approached the end of the down-swing. I am not sure of the physics involved, but the technique was certainly effective for splitting large logs!

Although Reg had for some time been retired from the Forest Biology Lab by the time I joined the Canadian Forest Service in 1967, he was still something of a legend around the Lab, and anecdotes about him (serious and lighthearted, sometimes a little irreverent) were abundant.

I have some glimpses of Dr. Balch, as seen by some of the people who worked with him in later years, that I would like to share with you. To my knowledge, he was the only Director of the Forest Biology Laboratory (now called Canadian Forest Service, Atlantic) to continue his research actively while administering the business of the Laboratory. It is fair to say that of all the people to occupy the Director's Office in the past 60 years he was among those regarded by Scientific staff with the greatest respect (and a rather deferential affection). Little wonder, with his personal charisma and his liberal and enlightened philosophy on science administration! Not that he ran a slack ship by any means, indeed there were quite a few of his colleagues who were slightly in awe of him!

There was the time that a former entomologist colleague arrived late for work to find that someone had placed a rather ordinary insect, perhaps a house fly, on his desk, along with a note asking for its identification and bearing the initials R.E.B. The scientist could not understand why a renowned entomologist like his boss would not recognize a common fly, so assuming that there must be something special about it got out all his books and his microscope and became more and more flustered as he attempted to solve the mystery. Finally, he knocked on the Director's door, timidly and apologetically entered and, redfaced, went to great lengths to explain that, without knowing where and when the insect had been collected and from what host etc, it would be very hard to do an unambiguous identification. Reg heard him out patient-

ly, looked at the fly and then, suppressing a grin with difficulty said addressing him, as was his custom, using his surname, "I do believe, _____, that someone is pulling your leg!"

Now Reg was probably as good a driver as anyone, attested by the fact that, to my knowledge, in many years driving, he never had a serious accident. Nevertheless, as a keen observer of birds and wildlife and as a wonderful photographer, he occasionally had a tendency, that some of his passengers found a little unnerving, to direct his attention from the road to some rare species or object in the surrounding countryside. The story goes that driving his colleague Ed Reeks, on a field trip somewhere, he rounded a bend and entered a picturesque, undoubtedly photogenic, covered bridge at the same moment that a hay-wagon entered the bridge at the other end. They emerged moments later, as in the old movies, with the lab car entirely covered with hay, whereupon R.E., with his characteristic sang-froid, commented nonchalantly "That was rather close wasn't it Reeks". As this story presumably originated with Reeks himself, we are not told how long it took him to regain his ability to speak!

Returning from one of his field trips on another occasion with Murray Neilson and Dick Clark, the trio was approached on the train platform at Fredericton Junction by a drunk waving a bottle of rum. The stranger proffered the bottle and was very insistent that they should all join him in a drink. Murray and Dick looked towards their boss for guidance as to how to handle this delicate situation and Reg, as a gentleman, was most polite in refusing the dubious bottle. The drunk looked at R.E.'s healthy ruddy complexion (his natural somewhat rubicund coloring augmented by a slight sunburn) and said "C'mon now. I know you'll have one. Yer nose didn't get that way sniffing roses!"

I have felt it not unfitting in this brief sketch of Reg's life to refer to a few incidents associated with his later professional career that would have made him chuckle. Others have spoken and written more eloquently than I could about his contributions as a clear-sighted, respected scientist, humanist, philosopher, artist, family member, and friend. There is not one of us who knew him whose lives have not been affected and enriched by our interactions with Reg, and we all have a wealth of our own special memories of these interactions that will always stay with us. "We shall not see his like again"

William Harold Brittain
1889 - 1971
by Vernon R. Vickery

William Harold Brittain was an unusual man, a man of many talents, a man very much at home in a group of people, yet more at home when alone surrounded by the solitudes of nature.

He was born in Fredericton, New Brunswick, on the 20th of September, 1889, son of Dr. John and Charlotte Brittain. They had eight children, five daughters and three sons. Billy was the second youngest. All of his early schooling was in Woodstock, N.B., where his father was a teacher but he went to Saint John for High School.

In 1907 Dr. John Brittain was appointed Professor of Nature Study at the newly opened Macdonald College. He also taught English. Billy was 17 when the family moved to Ste-Anne-de-Bellevue, Quebec, and he enrolled in the first class. He specialized in entomology and plant pathology, graduating in 1911, the first graduate of Macdonald College as there was no one in the class

whose name began with the letter A. He was awarded a gold medal for highest standing.

He worked a short time at the College and a year in Ottawa before going to British Columbia as Provincial Entomologist. About a year later he left to fill the equivalent office in Nova Scotia. Some westerners may find that hard to accept, but the ties of Maritimers to their roots has always been strong, apparently more so than in those from other parts of the country. Dr. Brittain once remarked to me that "in any gathering there should be at least one Maritimer to leaven them".

He managed to get enough time off to obtain his Masters and PhD from Cornell University. He married Mary Cruickshank in 1918. It was during his stay in Nova Scotia that he and others initiated the Entomological Society of Nova Scotia, now the Acadian Entomological Society. While he remained in Nova Scotia he served in one AES office or another nearly the entire time. The Proceedings of the Society from 1915 to 1925 contain 28 papers of which he was author or coauthor. His work on insects of Nova Scotia was outstanding. Among his other activities he made an around-the-world tour on behalf of a pesticide company. When he left Nova Scotia, the Society stagnated and ceased to exist, being revived only in the mid 1940s. He left because the government of the day was defeated in an election. Like many others, he was asked to look elsewhere for employment and a political appointee replaced him. In plain words, he was fired!

He moved back to Ste-Anne-de-Bellevue and became Professor in the Department of Entomology at Macdonald in 1926. In 1934 he was appointed Dean of the Faculty of Agriculture and a year later received the additional appointment as Vice-Principal. In 1937-38 he was, for nine months, Acting Principal of McGill University and head of the Department of Zoology. He retained the office of Chairman of the Entomology Department until he retired, in spite of the fact that he did not come near the Department for years at a time. Dr. E. Melville DuPorte, who outshone Brittain in several respects, had the job but not the title - because he was black!

Dr. Brittain came back to Nova Scotia during several summers and directed the study that resulted in the classic publication *Apple Pollination Studies in the Annapolis Valley, N.S., Canada, 1928-1932.*

During the 1939-45 war, Macdonald College became the chief training centre for the Canadian Women's Army Corps (CWACs). Brittain was Superintendent of the centre and had the rank of Lt. Colonel. He wore the uniform most of the time but hated to be saluted as it meant he would have to return the salute. For that reason he was usually bare headed.

He retired in 1955 but had a post-retirement appointment as Curator of the Morgan Arboretum. He gave the convocation address in 1955 and was granted the degree of Doctor of Laws (*honoris causa*).

It was said that Brittain solved problems by ignoring them until they went away. I cannot vouch for this but I know that he was adept in making himself unavailable to some members of staff. During the latter years of his 20-year tenure as Dean, he "escaped" from his office quite regularly and, if needed for anything, had to be tracked down in the Morgan Arboretum. Helen Neilson has told of an occasion when she had to obtain his approval for some item and literally had to plough through ankle-deep mud to get to him. On at least one occasion when a stranger was looking for him and did not recognize him in his dirty and disreputable attire, asked him if he had seen Dr. Brittain. The reply was " Yes, he went that-away". He had built a cabin in the Arboretum that he named "Chalet Pruche" and this literally became his second office.

His handwriting was so bad that he once said he owed his success to the fact that professors could

not read what he had written. One Cornell professor passed one of his papers on genetics to an expert in Sanscrit, who told him that it appeared to be written in an unknown and undoubtedly very ancient language. Brittain had to meet the professor in his office and explain what he had written before he would give him a grade.

He was a great storyteller and I sincerely doubt that anyone who knew him had not been cornered with "Did I ever tell you about?"

His work with the Morgan Arboretum and the "Birch Trail", specimens of birch trees from all parts of this land, are well known. The Arboretum occupied most of his time and effort from the time he retired until his death in 1971.

During his stay in Nova Scotia he, Alan Dustan, and Eric Boulden [N.S.A.C. Principal when Vic graduated] bought three acres of land and had a camp built for them beside a lake near Windsor Forks. Brittain always called it Daniel's Lake though the maps now show it as Zwicker Lake. Alan Dustan soon moved to Ottawa and Eric Boulden was farming and had little time so Bill Brittain became the sole owner. The land was purchased from Warren Smeltzer and the log camp was built by Edward Smeltzer and Harvey Armstrong.

There are many tales about Brittain's camp, the "Lion's Den" was his name for it. The tales include finding squirrel's nests in coat pockets and of a hole in the floor where the tea grounds were dumped, but it was clear that he was most contented when he could escape from the "rat race" and be close to nature. He continued almost annual summer visits long after he no longer resided in Nova Scotia.

Dr. Brittain is well known for his work in the Morgan Arboretum but who has heard of the "Brittain Arboretum" in Nova Scotia? In the area surrounding the "Lion's Den" during the middle 1930s he brought in and planted trees and shrubs, none of which were native to the region. They included Douglas-fir, Sitka spruce, lodgepole pine, western redcedar, eastern redcedar and western white birch. From the original plantings, three trees of each, some of them are regenerating naturally. From the original western redcedar there are now more than 25 that exceed 35 feet in height and numerous seedlings. In all, he planted more than 100 non-native trees and shrubs and many non-native flowers. Most of them are still growing very well.

Dr. Brittain's love of nature and trees in particular, show clearly in his paraphrase of William Shakespeare's "The Lout":

Ode to a Birch Tree

Wives there be who kill their husbands, Putting poison in their tea:
Men there be who slay their women, Push them overboard at sea!
But the meanest of these wretches, Though through all the world you search
Is the lout devoid of feeling, Who could peel a silver birch!

The camp deteriorated over the years. Dr. Brittain had directed that it be deeded to Acadia University but the University handed it back in 1967. It was then deeded to the present owner, Gerald Smeltzer, a long-time Federal employee in agriculture, son of the former owner of the land and nephew of the man who built the cabin. Gerry was an old friend of Dr. Brittain's. In 1990 Gerry and two helpers, Don Palfrey and Doug Slater, both former classmates of mine, made extensive repairs, including replacing

some logs and a new roof. Gerry has planted a number of flowering plants, including 50 rhodendrons which are flourishing and add new beauty to the area.

There is another aspect of the character of this shy though outwardly outgoing individual. He was an accomplished con man when he thought he needed to be, to obtain something for the College or Arboretum, usually money, but the inner nature of the man is perhaps best shown by a poem that he wrote in 1949.

Dawn on Daniel's Lake

The birch trees stand all ghost-like in the dawn, Etched on the mantle of the misty morn;
High in each leafy tree, the unseen thrush, Fills the trembling air with sliver chimes.

The sun still hidden by the eastern hills, Lights the horizon with a saffron glow;
Touches with gold the ripples on the shore, And strikes to flame the limpid spheres of dew.

But now her beams seek out the further shore, She lights the east with an intenser glow;
Trembles one breathless moment on the rim, Then bursts in glory from behind the hill.

Dr. Allison Deforest Pickett
1900 - 1991
Tall in the Saddle
by C. Roger MacLellan

I have an imaginary vision of Dr. A.D. Pickett. He is riding high on a chestnut horse wearing beige colored clothing, western boots, a dark hat with a broad brim beneath which his gleaming blue eyes shine with determination. In real life I have never seen him ride a horse, wear all beige clothing, or model a wide brimmed hat, but those brilliant blue eyes were unforgettable! I have no idea where this apparition comes from, but I've enjoyed it for years. The eyes, especially were etched into my memory that day in 1948 when A.D., tall thin, even gaunt looking, first strode into the laboratory where I was then emloyed as a summmer student, and shook my hand.

He was the Officer-in-Charge of the Dominion Entomological Laboratory in Annapolis Royal and his reputation was well known to me before I arrived for work. The incumbent of such an appointment held profound power. His authority was unquestionable and the future of underlings rested almost solely upon his his assessment of your value. To "muck up" was just not cool! But AD's eyes gave him away. He was not the tyrant or lord-and-master that rumour suggested or his position assigned to him. He was really a dedicated human being!

Increasing spray costs, unpredicted pest problems, and the loss of the lucrative British market led to a crisis in the apple industry in the 1940s: its very survival was at stake. A new and cheaper approach to insect problems was essential. Only AD could have convinced the powers in Ottawa that the effects of sprays should be investigated thoroughly. No one else could have provided that firm leadership and resolute tenacity needed to continuously persuade those in authority to allow a group of entomologists to pursue, and persist in, the ecological work that eventually became the core of pest management.

In the late 1940s, miracle drugs and pesticides were all the rage. Certainly DDT was in the ascendancy and entomologists throughout North America and Europe tested it with abandon on all and every pest available. The literature was full of glowing reports on the efficacy of DDT and the pesticide industry was elated. Hundreds of those involved, especially in the control of orchard pests, were convinced that chemical control was the only way to go. Convincing such persons that biological and natural controls were more permanent and reliable was nigh impossible, but AD persevered and gained the time necessary to show that long term studies were essential to prove that natural enemies - parasites, predators, and pathogens - could control many of the most serious pests of apple.

AD came from that generation of persons who believed that only pious work ethics would keep you on the road to survival. Work was a 24-hour job. He was not worried about colleagues his own age, for they had suffered the same perils and difficulties that he had, but he need not have worried about any later generation either. After all, entomology is such a fascinating science that all its advocates are diligent workers! However, AD looked on my generation with misgivings. There was no time for coffee breaks! There was no time to put your feet up on the desk and just think! There was no time to be in the office on a fine day when you could be out taking field records! There was work to be done!

Over the years AD mellowed and relented. On his travels to other establshments he soon discovered the impact that informal conversations during short work breaks had among colleagues, and of the value of persons mulling data over in their minds while physically relaxed. A coffee klatch soon became the norm among entomologists. AD also came to realize there was a distinction between laziness and efficiency. Conformity to traditional work methods, which disregarded the time factor, was still germane. When we moved into a new laboratory he had the insectary placed some distance away. When asked that it be moved closer his reply was "Surely you don't object to walking a few hundred yards to it"! When that structure fell apart, its replacement was built nearer the laboratory without provoking any ire from him. He too required its use!

AD had his embarrassing moments as well. I remember an encounter with him over a report of mine. He counselled that I should not use the word "detrimental" in relation to insects, because insects do not have minds. The word "detrimental" was inappropriate! When it was suggested that it was no different than "experimental" or "departmental", his eyes blinked, he blushed, turned about, and retreated to his office without a word. That incident was never mentioned again.

In the early days of the program, AD occasionally "borrowed" prominent findings from his fellow researchers for inclusion in his talks and papers without the authors being acknowledged. However, he really believed he had a right to such information. Most Officers-in-Charge did. They were responsible for the totality of the work of the laboratory, and felt that any in-house report was theirs for the taking. As one whose material was frequently used by AD, I was appalled, perplexed, and bewildered. It was useless to complain to the hierarchy, which concurred in the practice. The problem was finally resolved when researchers published their own data, thus forcing recognition. Still, at the time, the practice proved fruitful: AD convinced the top authorities that long term studies were crucial. After all, that was his self-assigned aim.

The fallacy of AD as a tyrant, potentate, or even an autocrat was easily dispelled merely by talking privately with him. Freely approachable, he received you warmly, intelligently discussed your concerns and interests, and suggested logical solutions to problems. He was a pleasant conversationalist. When asked to review a paper, he studied the subject matter intently, helped in sentence construction, questioned ambiguity, and made sure that what you wrote was what you meant to convey. He himself wrote clear and

detailed letters and welcomed ongoing correspondence with colleagues on various assignments. Once you got to know him, you found him friendly, firm, fair, honest, and helpful. In fact, his actions and reactions were no different than ours. He was not infallible. Truly he was one among us.

The spectre of the horseman, therefore, is a fair representation of the man. There he sits, in full control of the animal, the project. The nondescript colour of his clothing depicts his wish to blend in with his surroundings and fellow workers, and the hat defends his impressive personal achievements from the damaging rays of his critics. And still, those true blue eyes show the care and concern that A.D. Pickett had for nature and humankind. He clearly was - Tall in the Saddle.

Byron Wentworth Flieger
1904 - 1977
by Edward G. Kettela

Barney Flieger was born and raised on the Miramichi in Chatham in 1904, a New Brunswicker through and through, and as colorful a character as only the Miramichi could produce. I came to know him in September of 1967 when he was on the payroll of International Paper, and Managing Director of Forest Protection Ltd., his creation.

Barney was a Professor of Forestry at the University of New Brunswick, when he was called upon in the early 1950s to become Manager of Forest Protection Ltd. FPL was a New Brunswick Company charged with carrying out an aerial spray program to minimise spruce budworm damage. He knew the risks, because there was little experience anywhere in the world for such an undertaking.

He mustered the people and resources, and developed the technology and strategy that kept the forest alive and growing through the worst outbreak in New Brunswick's history. In doing so he had the wise counsel of Adams, Balch, Pickett, and their colleagues, as well as the technical and financial support of the New Brunswick Government and industry.

Flieger had immense energy, an upbeat personality and a rich sense of humour. All these were needed to help him sustain the stresses of building remote airstrips and facilities, pioneering new technology, enduring public criticism and occasional aircraft mishaps, and continually seeking more environmentally benign but effective spray formulations.

My purpose here is not to give a chapter and verse account of his life. That is adequately displayed at the New Brunswick Woodsmans' Museum in Boiestown. It is to give a colorful light-hearted view of a person who deeply touched the lives of many people. Once you met Barney, there was no forgetting him. His enthusiasm for forestry and the protection of forests was an inspiration to foresters, entomologists, spray pilots, wildlife and aquatic biologists, and decision makers. All were challenged by Barney's initiative, imagination, and concern for protection of forests in the best and least impactive manner possible. His wit and wisdom were legendary.

By entomologists and foresters alike he is remembered as the force that brought real forest protection from the spruce budworm to New Brunswick, and in developing it as a potent forest protection tool.

The budworm and Barney were sparring partners for a long time. His interest stemmed from his early life in Chatham, which was a major sawmilling town. He saw the 1918-1923 budworm outbreak devastate the forest industry and ruin the livelihood of the people of the Miramichi watershed. This interest eventually led him to do a study (1940) and prepare a report "A Report on the Post Budworm Forest..." This report, of which I have the original, was made required reading for federal foresters and entomologists by his friend, Malcolm Prebble, Director of the Forest Biology Division in Ottawa. By the time I met Barney, a series of entomologists had come and gone. These were many, but I must mention a few budworm entomologists, my predecessors: Frank Webb, Gordon Mott, and Ross Macdonald.

Bev McDougall, Barney's operations manager, orchestrated our meeting. It was to seem a casual meeting. "Hey there young fella! I'm Barney Flieger, the guy they are telling you all the lies about." I liked him from that very moment, and we became fast friends. He was also my mentor, and showed me a whole new way of looking at the world. For a young man getting started, I couldn't have been luckier.

Barney would try anything to get a leg up on the budworm and made it a practice of going to all the right meetings and "rubbing shoulders" with entomologists and foresters. He always liked a second opinion, or for that matter, a third opinion, and liked nothing better than getting into a room full of "experts" and "stirring the pot".

Although he didn't seem so, he was a cautious man, but when a decision was reached, all effort was expended. At his instigation, the Interdepartmental Committee on Forest Spray Operations was created. That institution is still in existence as the Forest Pest Management Forum. Similarly his creation, Forest Protection Ltd., is still in existence.

Barney made it a point never to go with one of anything, and that included entomologists. To make sure I stayed on the right track, in my first few years of the spray program, he retained Bob Nash of the Maine Forest Service and forest entomology Prof. Rae Brown of U.N.B. to look over my shoulder. It was truly a lot of fun. He also took it upon himself to take me across the country and meet with Ken Graham, Sam Graham, Jack Barry, Tom Waters, and a host of other people. It was an exhilarating experience.

He really liked to poke fun at bureaucrats, and he did his best at the Forest Pest Management [then "Control"] Forum one day by announcing that we were going to get even with the robins (Robins/blueberry litigation case) and eat them in a pie.

It was never dull with Barney around, and with his passing we lost a dear friend and colleague. It is with the fondest thoughts and greatest affection that I remember him. Thank you for the opportunity to talk about him.

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