

guelph

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The Great Seal of the University

In a system where conformity makes for smooth sailing, Keith Ronald, Dean of the College of Biological Science, is not afraid to make waves. He is a risk-taker, a man who had the conviction to believe that an inland university could establish a successful, internationally-known program in marine biology, a man with an international reputation based on a global view, content to spend his life in what he calls a "green niche" with a population of only 77,000.

When Prof. Ronald steps down at the end of this month after 12 years as Dean, he will continue teaching in Zoology. "I want to improve my teaching, concentrate on research and continue my international commitments and activities," he says.

Taking risks comes naturally to the 1968 Canadian National Rallye Champion who crashed once at 188 k.p.h. Prof. Ronald has since given up rallying, but since CBS was established in 1971 and he became its first Dean, taking risks, challenging the status quo and sticking to what he believes in have been part of his style.

"No status quo is sacred," he says. "I have little sympathy for history or people

who say since we've been doing it this way for 10 or 20 years, it must be right. There are some things, however, that are sacred to some people and one learns to tread lightly in those areas but, biologically speaking, you must have change or things will fester."

Helen Wilson, his administrative assistant who has been with him for 19 years, says Prof. Ronald is not afraid to challenge people and their ideas. "He's not a 'yes man' but it does bother him that sometimes, in the process of defending an idea, he makes enemies," she says. His secretary, Margaret Snowdon, agrees. "He is somewhat of a devil's advocate. He has probably stepped on a few toes but it is for the betterment of the University."

Friends, colleagues and co-workers agree that Prof. Ronald's best interests have always been for the good of the University. "He is not interested in self-glorification," according to former OAC Dean Rick Richards. "He is interested in the University and his College."

Walter Vaughan, Secretary of Senate, says of the Dean, "You never know what side of an issue he'll support. He's a man of principle. Once he takes a position, he will argue it forcefully. He is a fair-minded person and even though he is forceful, he does it with a smile on his face."

Born in Wales in 1928, Prof. Ronald came to Canada in 1949 and earned his B.Sc., M.Sc. and Ph.D. at McGill. He also has a diploma in radiation biology from the Argonne Laboratory. In 1958 he came to Guelph as an assistant professor at OAC, where he taught zoology until 1962. He left Guelph for two years to work as senior scientist with the Fisheries Research Board. In 1962 he was asked to return to OAC as professor and Chairman of the Department of Zoology, where he taught until 1971.

Known as the "Great Seal of the University" (partly because of his work with seals and partly because of his persistence), Prof. Ronald first became interested in seals in 1955 when he was a graduate student in parasitology at McGill. From there he went to Gaspé to work with fish and seals. When



he returned to Guelph in 1964 he worked with otters. In 1966 the seal tank, with one seal and one otter, was installed. Recently there were as many as 26 seals at Guelph, including Russian seals donated by the Soviet government, but Prof. Ronald says the large project's days are numbered because of the high cost of food, chemicals and labor, and shrinking grant support.

Prof. Ronald admits he is a devil's advocate when it comes to conservation and environmental issues. "If you can be certain of the facts, vocalize publically," he urges. "My work has taken me from the laboratory to talking to the public in Greece in hotels or to governments in Libya and Turkey."

This crusading attitude spills over into everything Prof. Ronald does. "I'm a bio-stitute — like a prostitute, but selling biology instead," he says. "I like to carry science through to the end, to make the public aware. I want everyone to know about what's going on in research and I want them to know there is a Guelph."

"He was the man of the hour"

Most people agree that Prof. Ronald's greatest achievement at Guelph has been the establishment of the only College of Biological Science in Canada.

Continued on page 2.



Ice floes, Magdalen Island, Gulf of St. Lawrence.



Testing helicopter for use in Magdalen Island.

Great Seal *Continued from page 1.*

Prof. Rick Richards, as Dean of the OAC in 1964, asked Prof. Ronald to return to Guelph as Chairman of the Department of Zoology. "He was the man of the hour," he says. "He thought big and organized well. He was imaginative and aggressive. He set up marine biology when no other university had developed a concentration in that area. As a result of his leadership and appreciation of the place of biology in the University, the College of Biological Science was established."

Outside the University, the Dean is known for his international involvement in marine mammal conservation. He is a member of the International Union for the Conservation of Nature, the Association of European Aquatic Mammalogists and the World Wildlife Fund, among others. He is also a fellow of the Royal Geographic Society and the Institute of Biology. He was the Canadian Scientific Delegate to the International Committee for the Northwest Atlantic Fisheries and the International Council for the Exploration of the Sea and has travelled everywhere from Algeria to the USSR.

"I suppose the highlight of my career was receiving two awards for scientific research in one year — the Sigma Xi Award and the F.E.J. Fry Medal from the Canadian Society of Zoologists," he says.

'Ability to milk money out of a stone or a turnip'

While Prof. Ronald's career has involved teaching and research, the consensus is that he was born to rule.

"He is really a leader," says Mr. Vaughan, "but he doesn't operate entirely by consensus."

One of Prof. Ronald's most remarkable administrative qualities is "his ability to milk money out of a stone or a turnip, as the case may be," according to one of his graduate students. Prof. Ronald has personally generated about \$2.5 million for seal research but says it isn't much, considering the size of the project.

Stuart Innes, a Ph.D. student who has worked with Prof. Ronald since 1979 believes the Dean's strength lies in his ability to make

available an environment for research by providing money and facilities.

Despite his administrative and research talents, Prof. Ronald says teaching is his first love and is partially responsible for him staying in Guelph.

His love of teaching may be one reason this internationally known biologist returns to Guelph, but the City itself and the University also play a big part. "I think this University offers the perfect system," he says.

Harvester picks only strawberries

A new strawberry harvester that combs through rows of strawberry plants rather than cutting them off has been developed at Guelph for use in Ontario's strawberry processing industry.

The prototype combing harvester developed by Professor Hi Lee, School of Engineering, allows several pickings of strawberries throughout the season. Stems are less likely to get caught in the tines of this harvester and more berries can be picked closer to the ground. Fourteen rows of tines on a rotating reel are attached to the back of the tractor. The teeth comb through the plants one row at a time, picking up the strawberries. An upward moving air stream blows away loose leaves, stems and caps so that only the berries fall into the collection tray.

"The combing harvester can virtually pick up berries right off the ground," he says. "It recovers all visibly undamaged berries, leaving the small green ones and the plants intact. The tines are spaced to pick up anything more than 1.27 cm in diameter and between 60 and 80 per cent of the berries recovered are good ripe berries."

Like other harvesters, this prototype increases production by picking residual berries after the pickers have been in the fields. The combing harvester can pick an acre (0.4 hectares) in two hours, travelling at about one mile an hour (1.6 k.p.h.).

The development of the prototype strawberry harvester was funded by the Ontario Ministry of Agriculture and Food. □

"Research is not interfered with, there are many capable people in a good academic environment and there are intense students who know why they are here. Guelph does not profess to be a jack-of-all-trades university. It is primarily a life sciences university so the students come here for a certain reason."

"Try to lead and set an example"

On July 1, Prof. Ronald will turn over the reins to Professor Bruce Sells from Memorial University of Newfoundland.

His advice for future CBS Deans is "to recognize the value of the people in the College, take their advice, but try to lead and set an example."

As for the future of the College itself, Prof. Ronald says, "CBS will continue to maintain its high quality staff and students and will probably expand in the area of molecular biology. It, amongst all the Ontario universities, has many unique life science programs and will continue to be in the forefront of biology in the world." □

Co-operate instead of losing temper

"I'm so angry, I could scream." We have all experienced this reaction to a family member, colleague or friend. Screaming may make you feel better, but may also damage or destroy your relationship. Stiffening your reaction only leaves you feeling resentful. In either case, the source of the anger is not properly dealt with or resolved.

"Such common approaches actually increase conflict, which can be extremely hurtful and destructive," says Professor Jim Murray, Chairman, Continuing Education. "Properly handled, conflict can be an opportunity for greater understanding and co-operation."

This July at Summer Campus, Prof. Murray is presenting a two-day workshop, "Conflict and Co-operation." "At the workshop, people won't just sit and listen to lectures," stresses Prof. Murray. "They will evaluate their personal style of dealing with conflict, and learn new conflict management skills by participating in role playing, simulations, and group activities." The workshop will cover the nature, causes and functions of conflict, barriers to resolution and strategies for managing and resolving conflict.

At Summer Campus, Prof. Murray is also presenting two other workshops which last three days. "The Art of Negotiating ... With Anyone," focuses on a specific method for handling conflict and winning. "The Creative Genius Within" enables participants to become more successful problem-solvers and innovators.

For complete information, contact Summer Campus '83, Continuing Education, Room 103 Johnston Hall, Ext. 3956. □

Physicist awarded medal of honor

Professor Peter Egelstaff, Physics, will receive the Canadian Association of Physicists 1983 Medal for his outstanding contribution to physics.

Only one CAP medal is awarded each year, and the recipients constitute a roll of honor of some of Canada's most distinguished scientists.

Prof. Egelstaff is the first member of his Department to receive the medal. The announcement of his award, coming so soon after the election of Dr. Gabriel Karl to the Royal Society of Canada and the awarding of the Herzberg Medal to Professor Barry Nickel in 1981, reflects the growing stature of this University in the world of physics.

The CAP medal is awarded for distinguished service in physics over an extended period of time, much of which must have been carried out in Canada.

Prof. Egelstaff's career has been divided between technology and basic science. As leader of the Chalk River group, which built the first phased rotor neutron spectrometer, he made the first comprehensive measurements of the thermal neutron "scattering law" of reactor moderator materials. He has made many contributions to neutron spectrometry — the best known being the development of cold neutron sources and the high speed chopper spectrometers used in the Chalk River experiments.

Following the publication of papers on nuclear and solid state physics between 1952 and 1962, Prof. Egelstaff studied the atomic behavior of liquids by neutron scattering. He designed and built a rotating crystal time-of-flight spectrometer on the University of Toronto electron linear accelerator which proved to be very versatile in the study of the dynamics of dense gases and liquid water.



Physics professor, Peter Egelstaff.

More recently he has been engaged in the study of the structure of dense gases, the behavior of water molecules near the freezing point and the structure of water absorbed in clay using a spectrometer he built at AECL, Chalk River. To further his work on the microscopic dynamics of gases, he has been granted extensive facilities at the Institut Lane-Langevin, Grenoble, France. These experiments form a careful attack on one of the most long-standing and intractable problems in physical science.

Prof. Egelstaff's CAP medal will be presented June 28 at a banquet during the CAP Annual Conference in Victoria, B.C. and he will address a plenary session of the conference. □

No change in funding formula

The enrolment-based formula for operating grants for Ontario universities will not be changed before the 1984-1985 academic year, the Minister of Colleges and Universities announced in a recent letter to university presidents. The Honourable Bette Stephenson was responding to a recommendation from the Ontario Council on University Affairs recommending a change in the formula.

In her often-delayed decision not to implement changes in the 1983-1984 year, the Minister cited a lack of unanimity within the university system about the OCUA proposals. That diversity stems, in part, from varying approaches among universities concerning enrolment. While some campuses are in virtual no-growth situations or accepting only limited increases in student numbers, others are actively seeking substantial enrolment increases.

The Minister, in her response to President Donald Forster, outlined what she believes to be essential criteria for a satisfactory distribution mechanism. In the first instance, it should provide funding stability and predictability, allocate funds equitably, provide accountability to the public and be simple and practical. Secondly, it should discourage aggressive competition for enrolment. Thirdly, the distribution mechanism should encourage program rationalization and new program development to respond to technological developments, changing societal needs and student demands. Fourthly, the mechanism should be such that changes in enrolment in September 1983 would have relatively little effect on funding for 1984-1985. Finally, the funding mechanism should be amenable to regular review and adjustment to respond to rapidly changing conditions. □

Getting down to philosophical brass tacks

One layer deeper than the contentious issues that form the substance of party political debate rests peoples' reasons for supporting this or that program or policy or politician. For thoughtful voters, these reasons hang together in a more or less coherent political philosophy, clustering around some fundamental political principles. Rivals' theories of how a civil society might best organize itself are seen as fundamentally flawed or as leading unavoidably to undesirable consequences if put into practice.

In the rough and tumble of everyday politics there is not much debate at this deeper level. A rival's philosophy will often be misrepresented, where it is not ignored. But debate at this theoretical level is important if we want to clarify and improve the grounds on which we act politically, according to Philosophy professor Tom Settle, organizer of an upcoming conference sponsored by the Guelph-McMaster Program in

Philosophy, with financial support from SSHRC, to give people a chance for just such a debate.

From 3 p.m. Monday, June 20 to 5 p.m. Wednesday, June 22, in Room 149, Macdonald Hall philosophers, political scientists and other thoughtful and interested voters will gather to face the challenge of "Liberalism in Crisis" and to get down to philosophical brass tacks.

Apart from individual freedom and dignity, the ideal liberal state is officially neutral about conceptions of the good. The practical pressure of other putative moral goods now threatens the idea, which has dominated Western political theory for centuries. Professor John Dunn, Political Science, Cambridge, who presents the challenge in the opening address, asks, in a recent book: "Are there still any terms on which, the world and men and the relations between men being taken as they now are, the human

species could come to share the world and its resources with one another in security and mutual trust for a lengthy future?"

Two principal speakers Professor Gordon Schochet, political science, Rutgers; Fred Barnard, political science, University of Western Ontario, will defend liberalism's capacity to furnish such terms, while Roger Scruton of London and Kai Nielsen of Calgary will show its shortcomings and the preferability of alternatives. Eight other speakers from the Universities of Alberta, Guelph, McMaster and Waterloo will contribute shorter papers and there will be time for discussion. The speaker at the banquet will be The Honourable Mr. Justice Thomas Berger.

The final session of the conference will feature a panel discussion among the five principal speakers.

For further information, contact Prof. Settle or Jim Shea, Philosophy, Ext. 3123. □

Bit by byte, psych experiments computerized

Microcomputers in the Department of Psychology are giving students a taste for laboratory work and allowing researchers to conduct a wider range of experiments and collect and analyze data more quickly.

For the past three years, 20 microcomputers have been used as teaching and research tools in the Department, according to its Chairman, Professor Michael Matthews.

As an experimentally-oriented discipline, psychology has developed its own unique experimental requirements for laboratory work, he says. "Because of the specialized nature of the equipment, students in some large classes could only receive exposure to research material through textbooks and journals. Computers bring the realities of a psychology experiment to all students taking the course."

Students using the computers work alone as participants using pre-programmed

experiments. The computer controls the experiment, does the calculations and gives the student immediate feedback on his performance. This gives the students the opportunity to compare and contrast their own data with published findings and gives them the flavor of participating in laboratory research.

Six microcomputers are used to support teaching functions. These are in use eight hours a day, five days a week and handle about 300 students per semester. Most of these students are taking courses at the 200 and 300 level.

Prof. Matthews says the system cannot yet accommodate the 1,500 students per semester in introductory psychology courses, but it is able to handle classes of 100 to 200 students.

Students at the senior undergraduate level and graduate level use the microcomputers for research and in experimental methods courses to run tests and collect data. Some of the topics dealt with are: measuring visual illusions, the capacity and limitations of memory, decision-making, reaction times and information processing.

The software for the microcomputers was designed primarily by faculty members in the Department which shares software with other psychology departments at such institutions as the University of Toronto, York University and the University of Florida.

Faculty members in the Department also use the microcomputers in their research. Fifteen microcomputers have replaced other equipment to provide access to a greater range of research possibilities and to increase laboratory flexibility.

"For example, Professor Rod Barron is studying reading disabilities in children," says Prof. Matthews. "He likes the microcomputer because it can be easily transported to schools for testing and it grabs the attention of the children so they enjoy the task."

Prof. Matthews' own area of interest is applied psychology in industry. Using the microcomputer, he can simulate real world situations such as quality control inspection of printed circuit boards, process control and the task of the air traffic controller.

Microcomputers are also being used in the acoustics lab and the animal learning lab in the Department. In both labs, the computers monitor human or animal subjects and record data from experiments.

Another advantage of the computers is that they operate in "real" time and are "dedicated" to running the experiment. Other computer systems on campus work on a time-sharing basis where the computer is monitoring several terminals at once and performing functions for each terminal simultaneously.

Prof. Matthews predicts the major development in the future of microcomputers, as it pertains to his Department, will be the combination of videodisc technology with microcomputers.

"With instant access to a pictorial database, the individual student will be able to scan the 'pages' of a videodisc filled with rich, visual material, rather than the two-dimensional graphics of the textbook," he says. "The interaction of the two technologies provides exciting prospects for experiments and demonstrations that are currently not feasible."

While the microcomputers may replace films and other audio-visual aids in the classroom, Prof. Matthews says they are intended to supplement rather than replace faculty members.

"The microcomputers were not instituted for efficiency but to provide richer educational experiences for the students which would not otherwise be available because of time and resource limitations." □



Prof. Michael Matthews, Psychology, in computerized classroom.

From test tubes to microchips, chemistry by computer

The Department of Chemistry has been using computer-assisted learning in the classroom for the past three years. Students learn enzyme kinetics in the biochemistry courses 19-359, 258, 354 and 355 by using an interactive program as an assignment to supplement lectures and laboratory sessions, explains Professor Alan Mellors. "The computer simulates enzyme reaction rates based on concentrations selected by the operator. This gives the student the opportunity to see the effects of various factors on the kinetics without doing the actual laboratory work."

The program was devised by Prof. Mellors and Peter Jaspers-Fayer, then of the Institute of Computer Science. It is run on

Amdahl in the APL language and is available to students through any ICS hardcopy or video terminal. Students use the program on their own time and may repeat the program as often as they wish during the assignment period. There is also a section available on the program for comments and suggestions. Students find the program fun and helpful, and many requests have been received to use the program in chemistry departments across the United States, according to Prof. Mellors.

The original cost of the program was underwritten by the Office for Educational Practice's instructional grant program. It is now maintained by the Department of Chemistry. □

TICKETS ARE ON SALE now for the University of Guelph Summer Chorale's performance of Rossini's "Petite Messe Solennelle," July 13, 8 p.m. at Harcourt Memorial United Church. Tickets, at \$4 general and \$3 students and senior citizens, are available at the central box office, University Centre.

THE AGRICULTURAL Economics Alumni Reunion, Friday, June 17 and Saturday, June 18, will be part of the 1983 Alumni Weekend Program. Events include a barbecue, a wine and cheese social and a talk by Dr. Kenneth Farrell on "The Role of the Agricultural Economics in the 1980s." A noon luncheon on Saturday will honor retiring professor, Stewart H. Lane.

ENERGY TODAY ABUSED, IS ENERGY TOMORROW WE CAN'T USE

Pentathlon lives Napoleonic legend revived

Nineteen athletes competed recently in the first meet of the newly-formed Guelph Modern Pentathlon Association.

Dr. Angus McKinnon, Clinical Studies, finished second only to former Canadian international pentathlon star, Dacre Stoker, Appleby College, Oakville.

Competitors were required to horse-back ride through a course of show-jumping; fence with epees; swim 300 metres, freestyle; snap-shoot with air pistols at three-second exposure and run 2,000 metres.

Two University of Guelph students, Karen Smereka and Tom Tokarewicz, fencing champion, finished eighth and seventeenth respectively. Ms. Smereka earned a first in riding and Mr. Tokarewicz a third in fencing.

The formation of the Guelph Modern Pentathlon Association and this first event was greatly assisted by the support of Dr. Colin Peace, Clinical

Studies, a former member of the British pentathlon team and a one-time British team manager.

The concept of the pentathlon, as Dr. Peace explains, dates back to the Napoleonic legend of the king's messenger who, when his horse was shot from under him, fought his way at sword point over river and hill to deliver his message — hence the five events.

"The competition is a friendly but demanding one, appealing to athletes who are strong in some areas and who wish to balance their skills," notes Dr. Peace. Local pentathlon associations are enjoying a renewal in Britain, he says, and they are gaining popularity in Canada, particularly at the high school and university levels.

For information on future pentathlon activities, telephone Dr. Peace at Ext. 2613. □



Keep basics in sight

The closing ceremony of the four-week AMPHI course given by the School of Hotel and Food Administration to 24 senior executives from the hospitality industry was addressed by J. Boyd Matchett. Mr. Matchett, President of Cara Foods, chairman of the AMPHI Policy Advisory Board and member of the Guelph Board of Governors, spoke of management as a relatively new academic discipline with a history of not much more than 20 years.

Up to 10 years ago, North American managers set an example to the rest of the world, noted Mr. Matchett. However, then came the most severe recession in 50 years, and the unparalleled phenomenon of Japanese business out-performing and under-selling through better productivity, technology and more effective management.

The North American trend was towards specialization in management with chief executives from financial and legal backgrounds. They lacked hands-on knowledge of the business and had an apparent inability to motivate workers, said Mr. Matchett. Japanese management, however, concentrated on basics — product quality, technology, customer service and motivating employees.

Mr. Matchett claimed that the food-service industry, especially in Canada, has never lost sight of the basics. It continues to thrive, employing 5.7 per cent (or 600,000 people) of the national labor force. This is 2,000 more people than a year ago, despite the recession, he said. It is a performance unmatched by hardly any other Canadian industry.

"Personal service cannot be automated because of the human interaction that this activity demands. It is an appealing and honest livelihood that obviously should play a key role in this country's recovery and adjustment to a new technological society," remarked Mr. Matchett.

Mr. Matchett concluded his address by paying tribute to Professor Tom Powers, Director, School of Hotel and Food Administration, the prime mover of the AMPHI program. The participants, emerging from a schedule which programmed their activities from 6:30 a.m. to 10 p.m. every day, were unanimous in their praise for the course. They believe they are returning home significantly strengthened in a wide range of management skills.

AMPHI, which will be offered on an annual basis, is expected to attract applicants from all parts of the continent for the 1984 program. □

Public Opinion and British Defence Policy 1931-1935

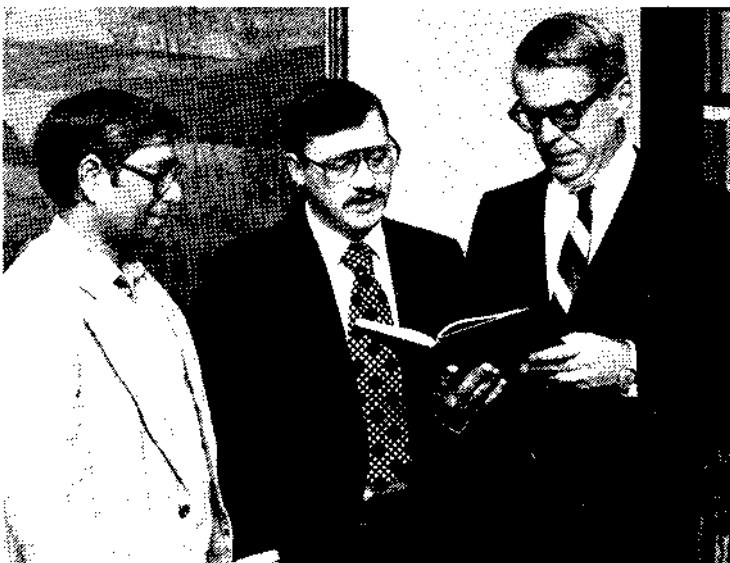
Patrick Kyba

Wilfrid Laurier Press, Waterloo, 1983, 215 pp.

This book constitutes a major and comprehensive re-evaluation of British defence policy in the early 1930s. Professor Patrick Kyba, Political Studies, traces the evolution of British opinion toward rearmament, from opposition to approval, between 1931 and 1935 and assesses its impact on the formation of that government's defence policy. He places public opinion among the many factors which determined the extent

and timing of British rearmament during this period and concludes that the leaders of those governments were not "guilty men" who let political considerations overrule their responsibility for national security, but rather prudent men who decided on rearmament before it was publicly acceptable.

Documented from such sources as newspaper editorials, cabinet papers, speeches of Members of Parliament, and results of by-elections, the book will be of interest to historians, students of policy decisions and public opinion, and persons interested in the events leading to World War II. □



Left to right: Prof. O.P. Owivedi, Chairman, Political Studies, Prof. Patrick Kyba and President Forster.

Push-button purchasing by 2000 A.D.

The 19th annual conference of the Ontario Universities Purchasing Management Association, held on campus in May, focused on the expected impact of the communications revolution between now and the end of the century.

University Purchasing Manager, M.L. Tolton, visualizes a virtually paperless purchasing office in which incoming requisitions will be consolidated by a central computer programmed to verify an existing supplier or search out a new source, place the order, confirm the delivery and approve the invoice for payment, all without the intervention of a single sheet of paper.

"We are looking towards a time when terminal to terminal dialogue will not only eliminate the use of paper but also such ancillary items as typewriters, paper clips and filing cabinets. What this means to existing purchasing operations in 14 Ontario universities and two colleges can best be gauged from the University of Guelph statistic of 20,000 individual purchase orders issued annually in addition to 18,000 systems contracts," he says.

Sales techniques could be affected, notes Mr. Tolton, and suppliers' catalogues could become redundant. "The graphics capability of Telidon as it exists right now makes it possible to maintain an on-line illustrated data bank of products, specifications and prices which the suppliers them-

selves can keep up-to-date electronically. Information stored in electronic catalogues could be instantly retrieved at the push of a button."

Inter-university computer links offer expanded opportunities for "Co-operative Buying," something that is already in place and likely to become more widespread in the coming decade.

These projections, Mr. Tolton explains, all lie within the capacity of existing technology. "How far the process will go and at what pace is less easy to predict. One of the problems yet to be solved before all paperwork can finally be eliminated is the requirement of different levels of government for written sales tax and duty declarations for each transaction where either applies."

The conference, described by Mr. Tolton as the most thought-provoking and successful in many years, was enriched by talks given by members of Guelph's faculty and staff on some of the consequences of the electronics revolution perceived in terms of social, psychological and lifestyle changes. Professors Ab Moore, John Powell, Ken McKay and John Campbell, Cal Swegles, Dave Murray and Al McInnis as well as Ken Clements, Executive Director of the Canadian Association of University Business Officers, all made major contributions to the success of the conference. □



Flour beetle researchers, left to right, front: Rita Hart, Dr. Laura McKay, Anne Winkelman; back: Prof. Friars and Donald McLeod.

Flour beetle provides insights for breeders

A research project involving the common flour beetle is providing breeding information for commercial livestock and poultry operators.

Begun in the early 1960s, the genetics program involving *Tribolium castaneum* is being co-ordinated by Professor G.W. Friars, Animal and Poultry Science, and is funded by OMAF and NSERC.

Prof. Friars outlines the advantages of the flour beetle as a pilot organism — its 10 pairs of chromosomes as opposed to four in *Drosophila*; the fact that crossing over occurs in both sexes, and a 30-day generation interval.

The flour beetle thrives in a simple medium composed of 95 per cent whole wheat flour and five per cent dried brewer's yeast. It can be accurately sexed while still in the pupa stage.

Prof. Friars's research team — Dr. Laura McKay, Miss Anne Winkelman, Donald McLeod and Mrs. Rita Hart — are using the flour beetle as a model to simulate breeding of economic species under different environmental conditions, assessing a number of phenomena such as inbreeding in relation to selection progress. Growth and reproductive traits are routinely measured in simulating breeding systems used in animals. Dr. McKay is doing post-doctoral work on the progeny test and is studying age factors as they apply to the reproductive capacity of males.

Donald McLeod, an M.Sc. candidate, is engaged in indexing to optimize combinations of information from individuals and their relatives. Anne Winkelman, a summer scholarship student who has just joined the team, will be investigating developmental time. Mrs. Rita Hart, chief technologist described by Prof. Friars as "our resident beetle farmer," supervises lab procedures.

"There is no end to the work in sight. There is still a great deal to be learned from the flour beetle with direct applications of potential benefit to the breeder," concludes Prof. Friars. □



Incoming OUPMA president, Mer^Y Tolton, left, compares notes with outgoing president, Denny Ross, University of Toronto.

ARNOLD G. HOLMES, Registrar, would like to thank the faculty and staff who assisted with the Spring Convocation ceremonies. Their work and support is greatly appreciated.

Technician, Biomedical Sciences. MTS III. Salary range: \$273.16 - \$392.86.

Travels and Seminars

Joanne Baker, graduate student, and Professor Andrew Winston, Psychology, presented a paper entitled, "Modifying Children's Creative Drawings: Experimental Analysis and Social Validation of a Self-Instructional Procedure," at the ninth annual conference of the Association for Behavior Analysis, Milwaukee, Wisconsin. They received an award for the scientific merit of their presentation.

Professor George Bubenik, zoology, presented an invited lecture, "Studies on Regeneration of Antlers," at the Fourth Biennial Forum on Regeneration at the University of Illinois, Urbana.

Professor Robin Davidson-Arnott, Geography, attended the Canadian Coastal Conference 1983 in Vancouver and presented a paper on "Application of Computer Modelling and Sediment Budget Techniques to Shore Erosion Problems, S.W. Lake Ontario."

Professor Harry Lane, Drama, gave a paper "CRC Radio Drama and Scandinavian Literature" at a recent meeting of the Association for the Advancement of Scandinavian Studies in Canada at the University of British Columbia. He also chaired a session on modern Scandinavian literature and was elected Secretary of the Association for a two-year term.

Professors Thomas D. Nudds and Stan Boutin and eighth semester student, Theodor P. Krasowski, Zoology, attended the eighth Ontario Ethology and Ecology Colloquium at Trent University. Prof. Nudds chaired one contributed papers session, presented a paper on "Sexual Size Dimorphism in North American Dabbling

Ducks: Sexual Selection or Resource Partitioning?" and was co-author of two others. Dr. W.L. Vickery, Université du Québec à Montréal, and Prof. Nudds presented a paper entitled "Inferring Density Dependence from Annual Censuses: Do Ducks in More Stable Environments Exhibit More Density-dependent Effects?" Ted Krasowski and Prof. Nudds delivered a paper on "Nest Site Selection by Diving Ducks in Southwestern Manitoba."

Prof. Boutin presented a paper entitled "The Effect of Supplemental Food on Numbers, Survival and Movements of Snowshoe Hares."

Susan Palmer, a graduate student in the Department of Psychology, presented a paper at the meetings of the Society for Research in Child Development in Detroit. The title of her presentation was "Varieties of Reading Disorders: Role of Morphology and Phonology."

Professor Marion Steele, Economics, gave a seminar at the Centre for Urban and Community Studies, University of Toronto, on "Housing Allowances in the Context of Canadian Housing Policies." She also spoke at the Metropolitan Toronto Social Housing Conference, sponsored by the Social Planning Council of Metropolitan Toronto, on "Proposals to Assist Low-Income Homeowners."

Dean John Vanderkamp, College of Social Science, attended the annual Canadian Economics Association meetings held in Vancouver where he presented a paper, "The Impact of Unemployment Insurance on Labor Force and Employment," co-authored with Jerry F. Wilson, Finance Canada.

University/Industry Interface

Université Laval, the Centre de Recherches Industrielles du Québec, the Institut National de Recherches Scientifiques, Société Interport and the metropolitan Quebec Chamber of Commerce and Industry have established a key planning and action group to encourage collaboration among their industrial, business and research sectors for developing the industrial and technological capabilities of the region. Some 2,000 researchers are grouped under this new organization and it is hoped that other interested groups will join. GATIQ hopes to encourage future research labs and industrial centres to set up in the region.

A major five-year agreement for research and development has been concluded between the Potash Corporation of Saskatchewan and the University of Saskatchewan. Under the agreement, the university is to implement mutually advantageous research and development programs to accelerate the development of new potash industry technology and to solve key scientific and engineering problems.

Quebec's Universities Council Releases Brief on Impact of Federal Research Funding

Quebec's universities council has concluded a two-year study of the impact of federal support of research on the province's universities and has submitted its findings to the minister of education. University reaction to the brief will be incorporated into the final report -- expected in the late fall of 1983. While critical of the federal granting agencies thrust to support targeted research and established centres of excellence which, according to the brief, leaves Quebec underfunded relative to the rest of Canada, the council stresses that Quebec needs a planning strategy for its universities and concludes that the lack of co-ordination between Ottawa and Quebec policy makers "seems destined to create more and more problems."

Copies of L'Impact du financement fédéral sur le développement du réseau universitaire are available from the Conseil des universités, 2700 boul. Laurier, 8^e étage, Sainte-Foy O1V 2L8, (418-643-8592).

University of Manitoba Introduces Two-part Tuition Fee

A new structure for academic fees, reported to be the first of its kind at a Canadian university, will be introduced by the University of Manitoba this fall. The total academic fee payable by students will have two components: a standard tuition fee for all regular session students regardless of their program, and a supplementary course services fee that is charged on a per credit hour basis. (There will be an overall per student fee for medicine, dentistry and graduate studies as those programs are not uniformly organized on the credit hour system.)

The new structure will eliminate incidental and special fees, replacing them with a clearly identifiable system of course services fees which are to go directly to the academic units within the university to assist in defraying course-related costs. Tuition fees are to be increased by 9.5 per cent in Manitoba for 1983-1984 and, with the change in the level of other fees, the university projects a total increase in income from fees of 10.8 per cent.

Blackburn, W.J. and J.T.A. Proctor, 1983. "Estimating Photosynthetically Active Radiation from Measured Solar Irradiance," Solar Energy 31: 233-234 (Horticultural Science).

Bubenik, G.A., 1983. "Chemical Immobilization of White-tailed Deer and the Use of Automatic Blood Samples," in Chemical Immobilization of North American Wildlife, eds. L. Nielson, J.C. Haigh and M.E. Fowler, Milwaukee, Wis.: Wisconsin Humane Soc., 1983, pp. 335-354 (Zoology).

Garr, B., 1983. "Fisher's Social Psychology," Canadian Psychology 24: 67-68 (Psychology).

Korabik, K., 1982. "The Effects of Sex-Typed Trait Descriptions on Judgments of Likeability," Social Behavior and Personality 10: 157-161 (Psychology).

Matthews, M., 1982. "Seat Belt Use in Ontario Four Years after Mandating Legislation," Accident Analysis and Prevention 14: 431-438 (Psychology).

Milne, Charles, P. Jr., 1983. "Honey Bee (Hymenoptera: Apidae) Hygienic Behavior and Resistance to Chalkbrood," Annals of the Entomological Society of America 76(5): 384-387 (Zoology).

Proctor, J.T.A. and W.J. Blackburn, 1983. "Albedo Characteristics of Strawberry Planting," HortScience 18: 233-235 (Horticultural Science).

Taylor, P.D., 1983. "You and the Chip: How a Microcomputer Can Help You Manage Your Publications Office More Efficiently," CASE Currents, Volume IX, No. 6: 18-21 (Print Publication Services).



Special moments at Convocation: the Chancellor is piped away from her last ceremony at Gue/ph.

MINDPOWER

Let's invest in this resource.

Next Week at Guelph

THURSDAY, 83 06 16

Spotlight on the University of Guelph - 1900, cable 8.

FRIDAY, 83 06 17

Friday Flix - RUDE BOY, THE CLASH, 2000, PS105.

Continuing Education - EQUINE CLINICAL DAY, 0800, Ext. 3956 to register.

Alumni Weekend - AG EC ALUMNI WORKSHOP, 1500, APS141; AG EC BARBECUE, 1700, Centennial Park, Marden; ARTS DINNER, 1800, UC441; OAC DINNER, 1800, UC442; OVC'43 REUNION, 1800, L/A; OVC'38 REUNION, 1800, UC103; FACS'73 RECEPTION, 1930, Johnston Hall, Rm. 104; DIMENSIONS '83, 2000, Faculty Club, 5th floor, UC; HOE-DOWN, 2000, Creelman Hall; WINE AND CHEESE, 2000, L/A; OVC'78 CASH BAR, 2100, Fireside Lounge, L/A.

SATURDAY, 83 06 18

Art Exhibits - THE HORSE IN ART AND SCIENCE; ERIC SNELL-MAGNETIC CONSTRUCTIONS; STEPHEN LIVICK, PHOTO-GRAPHS, Macdonald Stewart Art Centre.

Alumni Weekend - PANCAKE BREAKFAST, 0800, Branion Plaza; ELORA GORGE WALK, 0900, bus leaves Branion Plaza; AG EC CONFERENCE, 0900, CM200; ALUMNI SEMINAR, 1000, UC103; OAC ALUMNI MEETING, 1000, P5105; MAC-FACS ALUMNI MEETING, 1000, PS113; ARTS ALUMNI MEETING, 1100, UC430; CSS ALUMNI MEETING, 1100, Fireside Lounge, L/A; MAC'38 REUNION, 1130, UC442B; OAC ALUMNI PRESENTATIONS, 1145, PS105; ALUMNI PICNIC, 1200, Branion Plaza; OAC'28, reserved tables at picnic; FACS'73 REUNION, 1200, FACS Lounge; MAC'58 REUNION, 1200, UC441; MAC'63D, 1200 UC430; FACS'78, 1200, Maritime Hall; OAC'23, 1200, Arboretum; OAC'33, 1200, L/A; AG EC, 1200, Creelman Hall; MAC'33, 1230, UC442A; CSS BRING YOUR OWN PICNIC, 1230, Athletic Field; GRYPHON CLUB GOLF TOURNAMENT, 1300, Victoria East Golf-course; OAC'63 BASEBALL, 1315; ALUMNI GENERAL MEETING, 1330, PS105; OAC'48 MEETING, 1330, Johnston Hall, Rm. 104; CAMPUS WAGON TOURS, 1430, Macdonald Stewart Art Centre, Carriage House and Arboretum; OPEN BARN, 1500, Carriage House; OVC ALUMNI MEETING, 1600, Macdonald Stewart Art Centre; CPS ALUMNI MEETING, 1630, UC334; GOLDEN ANNIVERSARY DINNER, 1730, Creelman Hall; OVC ALUMNI DINNER, 1830, PCH; OAC'38 REUNION, 1730, Faculty Club; OAC'43 1800, L/A; OAC'48, 1800, Whipple tree, 1900, UC442; MAC'48, 1800, Whippetree, 1900, UC441; OAC'53, 1800, UC103; OAC'53A, 1800, Prairie Hall; OAC/MAC'58, 1800, Cuten Club; OAC'63, 1800, Whippetree; ODH'63, 1800, Whippetree, 1900, UC430; DAC'68, 1800, Maritime Hall; FACS'73, 1730, Creelman Hall; RECENT ALUMNI, 1800, PCH; ALUMNI DANCE, PCH.

SUNDAY, 83 06 19

Cycling Club - KELSO, 1000, front of UC.

Worship - CATHOLIC MASS, 1015, Red Lounge, MacKinnon bldg.; CAMPUS CHURCH SERVICE, 1030, PS113.

Sunday Afternoon Walks - SUNDIALS, 1400, J.C. Taylor Nature Centre, Arboretum.

Workshop - RELEASING WOMEN'S POTENTIAL, 1330, PCH.

Festival - SUN DAY '83, 1400, Riverside Park.

OAC - POULTRY MANAGEMENT SCHOOL, Ext. 3933 to register.

Alumni Weekend - ALUMNI CHURCH SERVICE, 1000, WMH; OVC'47 REUNION, 1100, UC441; OAC'53 BRUNCH, 1100, Whippetree; OAC '74 MEETING, 1100, Johnston Hall Residence; OVC'78 BRUNCH, 1100, UC103; OAC'43 BRUNCH, 1100, UC442; DIMENSIONS '83 ART SHOW, 1100, Faculty Club; RECOGNITION LUNCHEON FOR PRESIDENT FORSTER, 1200, Creelman Hall; CENTURY CLUB, 1430, by invitation.

MONDAY, 83 06 20

Spotlight on the University of Guelph - 1830, cable 8.

Continuing Education - EQUINE RESEARCH REVIEW DAY, 0830, Ext. 3956 for details.

Branch Meeting - ONTARIO INSTITUTE OF AGROLOGISTS, 2000, Arboretum Centre.
Athletics - WORLD UNIVERSITY GAMES, Torch Ceremony, 1300, outside Johnston Hall.

TUESDAY, 83 06 21

Continuing Education - TRADING IN COMMODITY FUTURES, 0830, Ext. 3956 to register.

Meeting - PROFESSIONAL STAFF ASSOCIATION, 1630, UC103.

Meeting - SENATE, 2000, P5113.

Film - WE ARE THE VOICE OF THOSE WHO ARE NOT HERE, Amnesty International, 1200, UC442.

ICS - SAS GRAPHICS FOR MANAGERS, T. MacKay, 1030, Ext. 3046 to register.

WEDNESDAY, 83 06 22

Guelph Cycling Club - GUELPH LINE, 1715, front of UC.

Biophysics/Biochemistry Seminar - MALATE METABOLISM IN WINE YEAST, Dr. R. Subden, 1210, PS222.

THURSDAY, 83 06 23

Spotlight on the University of Guelph - 1900, cable 8.

The following abbreviations are used in "Next Week at Guelph": APS = Animal and Poultry Science; UC = University Centre; L/A = Lennox/Addington; CM = Chemistry Microbiology; PS = Physical Science; PCH = Peter Clark Hall; WMH = War Memorial Hall.

For Sale

Restored 1968 Volvo 123 GT, 822-8204; three bedroom side split on two acres, between Fergus and Arthur, suitable for livestock, 848-5173; Holton Coronet instrument, 821-9378; ANTC AM-FM stereo, 8-track, speakers, two BSR McDonald turntables, 822-0586 after 1700; chest of drawers, 856-4395; in-dash AM/FM stereo cassette player, power booster, 1979 XL75 Honda motorcycle with carrying racks, 824-5173 after 1700; kitchen table and four chairs, 824-0563 after 1700; 1973 Mustang, 836-4466; 24' above ground pool with accessories, 822-8547; single bed, baby accessories, 821-1264; colonial loveseat, 821-5502; dark blue 1975 short box Chevy van with sunroof, captain chairs, AM/FM cassette, partly furnished, 821-2385 after 1630; chrome/arborite kitchen table, high chair, spinner washer/dryer, 822-7423 after 1730; 1974 Ford Mercury Capri, 1975 Honda 360 CR, 824-7335, evenings; 12-foot aluminum boat with 7.5 Mercury motor, double Skidoo trailer, 836-7989; charcoal barbeque, toaster, iron, electric kettle, designer wedding dress and hat, size 9-10, candlelight color, 822-3129; flagstone suitable for planters, 822-1232; fridge, stove, automatic washer and dryer, 824-8298; hoosier, electric lawn mower, 824-5509; garage sale, 59 Lowes Rd., June 18, 0900-1600; wooden wardrobe, bedroom suite, recliner chair, 824-9710.

Wanted

German girl would like to stay with Canadian family from Aug.-Nov. to improve her English, babysitting, light housework, 856-4428; one wooden high chair, 822-1232; furnished apartment for visiting prof and wife, Aug. 1 to May 31/84, contact D. Barnum, 2578.

For Rent

Furnished three bedroom home, Sept. 1/83 to July 1984, 821-7117; furnished two bedroom apartment, July and Aug., 822-8762, evenings; three bedroom house with garden, available Aug., 822-9879.

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