

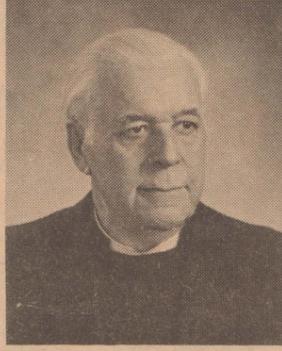
Six to receive honorary degrees (Page 3)



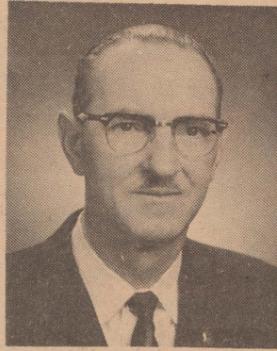
Dr. H. E. Read



Dr. H.B. Vickery



Dr. C. M. Nicholson



Dr. M. B. Dockertry



Dr. L. C. B. Gower



Dr. F. N. Hughes

university news

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1,600 to get degrees, diplomas

Nearly 1,600 degrees and diplomas will be conferred at this year's convocation ceremonies, beginning May 16.

This also marks the tenth year that Dr. Henry D. Hicks has presided over convocation ceremonies. He was installed as university president in February, 1964, and at convocation ceremonies later that year only 520 degrees and diplomas were conferred.

This year, for the first time, dentistry will hold its own convocation. The degrees of Doctor of Dental Surgery and diplomas in Dental Hygiene will be conferred at 8 p.m., May 16, in the Cohen Auditorium.

The first general convocation will be held at 2 p.m., May 17, in the Dalhousie Memorial Rink at which time the degrees of Bachelor of Arts, Bachelor of Science and Bachelor of Science in Engineering Physics will be awarded.

The convocation for the Faculty of Law will be held at 10 a.m., May 18, in the Cohen Auditorium. Later in the day, at 2 p.m., in the Memorial Rink all remaining degrees and diplomas, with the exception of Medicine, will be conferred. This ceremony will include Bachelor of Commerce, Bachelor of Education, Bachelor of Music Education, Health Professions and Graduate Studies.

The Dalhousie Medical School convocation will be held June 1 at which time the degree of M.D. will be conferred at 10 a.m. in the Cohen Auditorium.



Dr. Henry D. Hicks, the president, signs his tenth set of degrees and diplomas while Dr. Robert Bingham, secretary of senate, signs for the first year in preparation for convocation ceremonies. At right is Miss Marion Crowell of the registrar's office.

Room and board prices increase

The price of room and board in Dalhousie's two on-campus residences — Shirreff and Howe Halls — goes up by \$64 per student in September, but \$63.90 of the increase will go to direct — and higher — food costs.

Dr. Henry D. Hicks, the president, said that the Board of Governors had approved the \$64 increase for the 1973-74 academic year. The year runs from the beginning of September to the end of April — an average of 34 weeks.

Dr. Hicks said that before deciding to recommend to the university that the present caterers, Beaver Food Services Ltd., be given the contract for next year, the university's Catering Committee had asked its student representatives to seek the views of the students in both residences.

The students favored the retention of Beaver despite the increase in the tender amount (which made the Beaver bid higher than some other companies), and said they would be willing to pay the increased rate.

Residence fees in Howe and Shirreff Halls next year will be \$1,123.50 for a single room and full board, and \$1,048.50 for a double room and full board.

"While the total price appears to be high, a room for 34 weeks with three meals a day costing \$33 a week is reasonable in these days of increasing costs", said Dr. Hicks.

\$15 million in government funds forecast

The prediction that about \$15,000,000 would be available from government departments for research and educational programs in the near future was made at Dalhousie when the Commission on Canadian Studies held an informal hearing at the university last month.

Professor T. H. B. Symons, chairman of the commission, which was established last year by the Association of Universities and Colleges of Canada with the support of the Canada Council, said that if universities were to benefit from the funds he predicted would be available, they should start "tooling up" now.

The commission is studying the state of teaching and research in studies relating to Canada at Canadian universities. Final report of the commission is expected in the fall of this year.

At the Dalhousie hearing, attended by representatives of a number of academic units, Prof. Symons said that a surprising aspect the commission had noted during its travels across the country was the extent to which scholars in one part of Canada were not aware of what scholars in other areas were doing in respect to Canadian studies. "It is surprising how much is being done, but there are also areas of neglect," he said.

"There appears to be a militantly ignorant attitude prevailing. Some established faculty consider it bad form for anyone to be interested in Canadian literature or other fields of Canadian studies."

Prof. Symons added that the Indian Affairs department next year, for example, would have a budget of \$560,000,000. Of this about \$150,000 would go to universities for research and other work. But he predicted that about \$15,000,000 would be available from government departments through to 1980 for research and programs in which universities could become involved. "They should start tooling up now."

Professor Peter B. Waite, of the History department, told the commission that a number of departments were combining at Dalhousie to provide undergraduates with the opportunity to take courses which could be considered as Canadian studies.

But Dr. K. H. Mann, chairman of the Biology department, said he had difficulty relating the commission's aims to science. A study of Eskimos, yes, but science was science the world over. Graduate Studies Dean K. T. Leffek agreed. You could not teach Canadian math, because no such subject existed.

Dr. G. A. Riley, director of the Institute of Oceanography, felt the same way. "We would hope that our research projects are of such significance to be of general interest. Our main target is to train scientists, and while Canadian studies are useful, they are not the main issue in our work."



DR. JOHN POOLEY, associate professor and co-ordinator of undergraduate studies, Dalhousie School of Physical Education, has been appointed Distinguished Visiting Professor for the summer at Arnold College Division, University of Bridgeport, Bridgeport, Connecticut. A native of England, Dr. Pooley joined Dalhousie in 1970 and has had a wide range of experience as a teacher, coach, administrator and lecturer.

Public relations seminar May 24

A public relations seminar entitled How to Function with Governments, will be offered at Dalhousie on May 24 by the Advanced Management Centre in co-operation with the Atlantic Public Relations Society.

The one-day seminar, which will be composed of leader presentations by knowledgeable resource persons together with a series of group exercises and case studies, is designed to give a general overview of how individuals and organizations may effectively deal with governments at all levels.

The session will be divided into four sections. The first will deal with how government is structured, the division of organizational responsibilities with some mention of inter-governmental operations; the second will examine the "how to" of researching and selecting resource materials and how to use consultant services; the third will provide information on the preparation and presentation of briefs and applications for funding; the final one will deal with pressure groups — who they are and how they operate.

The discussion leaders taking part all have personal or professional experience and competency in community-government relations. The roster includes:

Harry Flemming, executive director of the Atlantic

Provinces Economic Council, lawyer and former journalist;

Frank McGee, vice-president of Public and Industrial Relations, Toronto, broadcaster, columnist and TV personality and former cabinet minister in the Diefenbaker government;

Donald MacLean, head, conference and publication section of Dalhousie's Institute of Public Affairs and keenly interested in adult education;

Donald Gillis, editor-publisher of the Antigonish Casket and heavily involved in a number of community projects with government;

George McCurdy, director, Nova Scotia Human Rights Commission and knowledgeable in minority and ethnic problems;

Ehor Boyanowsky, social psychologist, researcher and consultant and assistant professor at Dalhousie;

Brian Flemming, Halifax barrister with interests in the field of international law.

A display of printed materials arranged by the Nova Scotia Communications and Information Service and Information Canada will provide registrants from business, industry, community organizations and government bodies with back-up information on subject matter discussed during the day-long seminar.

Information director awarded fellowship

The award of a \$1,000 administrative travelling fellowship to Derek R. Mann, director of information and public relations at Dalhousie has been made by the Association of Commonwealth Universities.

Dr. Henry D. Hicks, president of Dalhousie University, said

that the ACU established the fellowships program last year to enable senior administrative officers in universities throughout the Commonwealth to visit universities in countries outside their own and study matters of professional interest and of importance to their own universities.

"The fellowships program offers for the first time an opportunity for non-academic administrators to travel and study in the same way that their academic colleagues have been able to do for many years with grants from such agencies as the Canada Council," said Dr. Hicks.

He added that the award to Mr. Mann was one of 14 awarded by the ACU this year from a total of 63 applicants. Two other winners are from Canada. In 1972, 70 applications were considered and 12 were



Derek R. Mann

successful, but none was from Canada.

The fellowships were established by the ACU, whose headquarters are in London, with a grant from the Commonwealth Foundation.

Mr. Mann will visit universities in Scotland and England this summer to study the role and methods of information and public relations officers.

Dr. Dewis professor emeritus

Dr. George M. Dewis, who was on the teaching staff of the Faculty of Dentistry at Dalhousie University for more than 30 years, has been appointed professor emeritus in recognition of his long and distinguished contribution to the school at Dalhousie.

Dr. Henry D. Hicks, the president of the university, said that Dr. Dewis, who retired last year, would be the speaker at the Faculty of Dentistry's convocation on the evening of May 16.

It is the first time the dental school has had its own separate convocation, and this year's will mark the end of the first dental

Post-College Assembly organized by the faculty's continuing education committee.

Dr. Dewis was born in Boston but attended Colchester Academy, Truro, and Dalhousie. He was graduated with his DDS in 1928, and joined the part-time staff of the school as a lecturer in 1940. In 1952 he became a professor. He remained on the staff four years beyond normal retirement age.

He is a member of the Halifax County Dental Society, the Nova Scotia Dental Association, the Canadian Dental Association, the Pierre Fauchard Academy, a Fellow of



Dr. G. N. Dewis

the American College of Dentists and of the International College of Dentists.

Dr. Dewis was a member of the CDA board of governors from 1950 to 1960, president of the CDA in 1958-59, its treasurer from 1960 to 1970, secretary-registrar of the provincial dental board of Nova Scotia from 1941 to 1968, and a member of that board from 1935.

Kidney research team gets award

The kidney research team at the Izáak Walton Killam Hospital for Children, under the direction of Dr. John Crocker, has become the recipient of the first grant issued by the Kidney Foundation of Canada.

The \$1,958 award was presented by foundation president David Ornstein of Montreal at the annual meeting of the Nova Scotia branch of the foundation.

The grant will be used for studies into the cause, cure and prevention of kidney disease.

University News

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University News staff: Editor, Maurice MacDonald; General News, Roselle Green.

Four prominent Dalhousians are among the six who will receive honorary degrees from Dalhousie University this year.

Dr. Henry D. Hicks, the president, announced that honorary LL.D. degrees would be conferred at convocation ceremonies on:

Dr. Horace Emerson Read, who graduated from Dalhousie in 1924 and became Dean of Law and vice-president of the university;

Dr. Hubert Bradford Vickery, for many years chief biochemist at the Connecticut Agricultural Experiment Station, who was a 1915 Dalhousie graduate;

Dr. Clarence Mackinnon Nicholson, who graduated in 1931 and for 25 years was principal of Pine Hill Divinity Hall and was elected Moderator of the United Church of Canada in 1950;

Dr. Malcolm Birt Dockerty, a gold medal winner in Medicine at Dalhousie in 1934 who joined the Mayo Clinic and became its chief pathologist;

Dr. Laurence Cecil Bartlett Gower, vice-chancellor of the University of Southampton in England; and

Dr. Francis Norman Hughes, Dean of the Faculty of Pharmacy at the University of Toronto.

Drs. Nicholson and Vickery will receive their degrees on May 17; Drs. Read and Gower at the Law convocation on the 18th; and Dr. Hughes at the Rink ceremony on the 18th. Dr. Dockerty will receive his at the Medicine convocation on June 1.

All but Dr. Vickery will give convocation addresses.

Dr. H.E. Read

Dr. Read, Dean of Law for 14 years and vice-president from 1964 to 1969 at Dalhousie, has had an extensive and varied career as a lawyer, teacher, author, researcher, labor relations authority, and with all three armed services.

Born at Port Elgin, N.B., he attended Acadia (B.A., 1921), Dalhousie (LLB, 1924) and Harvard (LLM, 1925; S.J.D., 1934) Universities. He taught law at Dalhousie from 1925 to 1934 and at the University of Minnesota from 1934 to 1950 before becoming Dean of Law at Dalhousie until 1964 and Director of the Nova Scotia Centre for Legislative Research from 1951 to 1965.

During the First World War he served with the Nova Scotia Highlanders and the Royal Flying Corps and during the Second World War with the Royal Canadian Navy. From 1943 to 1945 Commander Read was chairman of the naval regulations revisions committee, and in recognition of his services in directing a complete revision of Canada's naval regulations was awarded the OBE. He also drafted the Naval Service Act of Canada in 1944.

At the University of Minnesota, Dr. Read pioneered the development of an undergraduate course in legislation, the first of its kind in the United States.

Admitted to the Bar of Nova Scotia in 1924, Dr. Read was appointed a QC in 1941. His off-campus activities have been many and varied, including the chairmanship of the Nova Scotia Labor Relations Board (from 1950 to 1972); ex-officio member of the Nova Scotia Barristers' Society council (Honorary President, 1966 to 1967); Nova Scotia vice-president of the Canadian Bar Association; president of the Conference of Governing Bodies of the Legal Profession in Canada; chairman of the committee on educational standards; member of the Conference of Commissioners on Uniformity in Legislation in Canada and for a year its president; president of the Association of Canadian Law Teachers; member of the editorial advisory body of the Canadian Bar Review; chairman of the committee on foreign judgments of the International Law Association, and vice-president of its Canadian branch.

In 1958 Dr. Read was United Nations observer of national elections in Costa Rica and consultant on electoral law. The same year he was chairman of the Nova Scotia Royal Commission on Automobile Insurance. He was the representative of Canada at the Conference on Private International Law at The Hague in 1968.

Honorary degrees 1973

Dr. H.B. Vickery

Dr. Vickery is a native of Yarmouth and graduated from Dalhousie with his B.Sc. in 1915 and his M. Sc. in 1918. He taught science at a Halifax high school from 1915 to 1917, then was an analytical chemist with Imperial Oil at Dartmouth for two years before joining the teaching staff of the Nova Scotia Provincial Normal School in Truro.

In 1920 he was summoned by Dalhousie to lecture and supervise the laboratory classes for all of the chemistry courses after one professor died and another became ill. One result of his efforts at Dalhousie was the award of an 1851 Exhibition scholarship, and with it Dr. Vickery enrolled in the Yale Graduate School, earning his Ph.D. there.

In 1922 he joined the Connecticut Agricultural Experiment Station as an assistant biochemist, remaining with the station until his retirement and appointment as biochemist emeritus in 1963. From 1928 until his retirement, Dr. Vickery was biochemist in charge.

He was also a lecturer at Yale from 1924 to 1963, a research associate with the Carnegie Institute from 1929 to 1938.

Dr. Vickery is a member of the National Academy of Science, the Society of Biological Chemists (of which he was president in 1950), the American Chemical Society, the Society of Experimental Biology, the Society of Plant Physiology, and the British Chemical Society.

Dr. C.M. Nicholson

Dr. Nicholson, who was born in Dominion, Cape Breton, attended the Glace Bay High School, Acadia, and Dalhousie Universities. He obtained his BA from Dalhousie in 1931 and his DD from Pine Hill Divinity Hall three years later.

After serving as a parish minister of the United Church in the Halifax and Cape Breton areas, Dr. Nicholson was appointed principal of the Pine Hill Divinity Hall in 1946, a post he held for 25 years.

In 1950 he was elected Moderator of the United Church, and represented the Church at the first and second assemblies of the World Council of Churches at Amsterdam and Evanston. From 1954 to 1960, Dr. Nicholson was the Canadian representative on the central committee of the World Council.

After leaving Pine Hill as principal, Dr. Nicholson returned to the parish ministry, and is now serving Carmen United Church in Sydney Mines.

He has received honorary degrees from Toronto, Queen's, Acadia, Mount Allison and King's College universities.

Dr. M.B. Dockerty

Dr. Dockerty was born in Cardigan, PEI, and attended Prince of Wales College. A gold medal winner, he enrolled at Dalhousie as a pre-medical student in 1928. He graduated with his MD and as co-winner of the University Gold Medal in 1934 and interned at the Victoria General Hospital in Halifax.

Dr. Dockerty joined the Mayo Foundation in Rochester in 1934 as a resident in surgery and the following year turned to pathology. After graduating with an MS in pathology from the University of Minnesota, he was appointed to the Mayo staff and was successively instructor, assistant professor and professor of pathology between 1939 and 1952 in the Mayo graduate school.

From 1958 to 1968 he was head of the department of surgical pathology, and since 1968 has been senior consultant.

He is a member of a number of medical and surgical societies, including the Nova Scotia Medical Society, and since 1955 has been a consultant to the Armed Forces Institute of Pathology. He is also a consultant on gynaecologic pathology for the Central Association of Obstetrics and Gynaecology. Dr. Dockerty is the author of a number of scientific articles and in 1968, with his colleagues, published a fascicle on tumors of the oral cavity and pharynx.

He was awarded an honorary degree from the University of Prince Edward Island in 1967.

Dr. L.C.B. Gower

Dr. Gower, vice-chancellor of the University of Southampton since 1971, was educated at Lindisfarne College and University College, London, graduating with his LLB in 1933 and his LLM in 1934. He was admitted to the Bar in 1937.

During the Second World War, Dr. Gower served with the Royal Artillery and the Royal Army Ordnance Corps and was awarded the MBE.

From 1948 to 1962 he was the Sir Ernest Cassell professor of commercial law at the University of London, and in 1954-55 was a visiting professor at Harvard Law School.

Prof. Gower served as professor and Dean of law at the University of Lagos from 1962 to 1965, and in 1966 was Holmes lecturer at Harvard. He was a member of the committee on company law amendment in Ghana in 1958, the Denning Committee on legal education for students from Africa in 1960, and the Omerod committee on legal education in Britain in 1967.

Prof. Gower's publications include *Principles of Modern Company Law* (1954), and *Independent Africa: The Challenge to the Legal Profession* (1967).

Appointed a trustee of the British Museum in 1968, Prof. Gower holds an honorary degree from York University in Britain.

During his service in Africa, he was adviser on legal education in Africa with the British Institute of International and Company Law and adviser to the Nigerian Council of Legal Education.

Dr. F.N. Hughes

Dr. Hughes, a native of Dresden, Ont. began his career in pharmacy as an apprentice with a Sarnia retail pharmacist in the 1920s. He graduated from the Ontario College of Pharmacy in 1929 with his Phm. B. degree, and after seven years as a partner in the retail pharmacy, turned to teaching, joining the Ontario College staff in 1938 as an assistant professor. He received his B.Sc. in pharmacy from Purdue University in 1940, his MA from the University of Toronto in 1944, and in 1945 became a full professor. In 1948 he was appointed assistant Dean and four years later Dean of the College.

He remained as Dean of the Faculty of Pharmacy at the University of Toronto when the university assumed the responsibility for pharmaceutical instruction from the Ontario college.

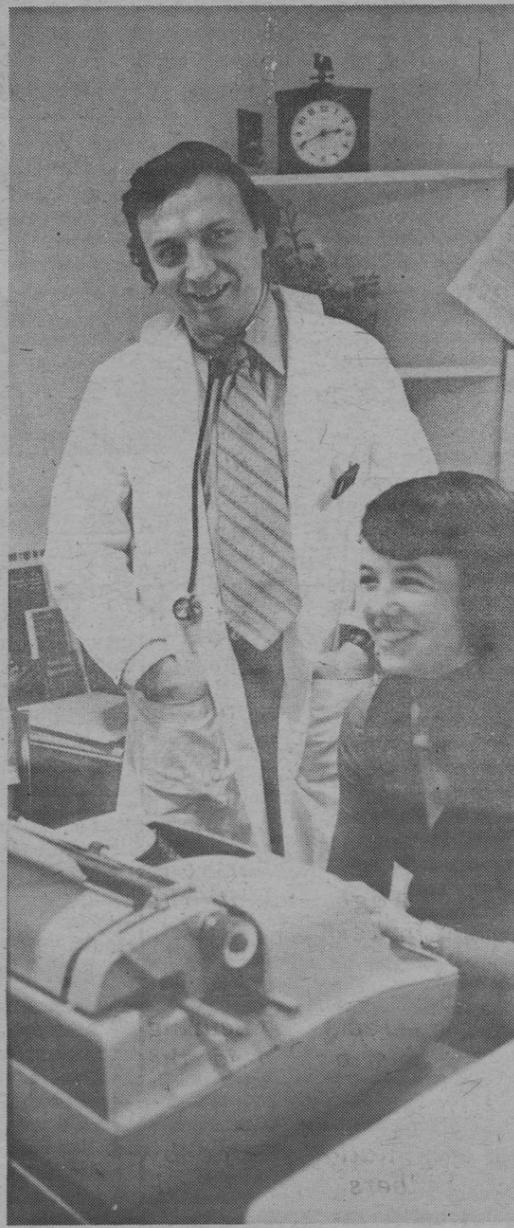
In addition to his writing and editing, Dr. Hughes was the first president of the Pharmacy Examining Board of Canada, from 1964 to 1966, and president of the Association of Deans of Pharmacy of Canada from 1966 to 1969. In 1970 he was elected the first chairman of the Association of Faculties of Pharmacy in Canada.

In 1963 Dr. Hughes was elected Pharmacist of the Year by the Independent Retail Druggists Association in Montreal; in 1967 he was awarded a Centennial Medal. He is an honorary life member of the Ontario Pharmacists' Association, the Canadian Society of Hospital Pharmacists, and the Canadian Pharmaceutical Association.



High school students were hard at work at Dalhousie the past two weeks, gaining valuable working experience. The 27 students, members of the Business Education Department of the Mabou Consolidated High School, spent from April 30 to May 11 working at various offices on campus doing normal clerical tasks.

The program was rated a complete success by students, school officials and Dalhousie administrators. At top left, student KINNON BEATON gets some advice from Jack Sheehan, business manager of the Department of Physical Plant. At top right, MARGARET MACDONALD appears happy to be working in the Department of Medicine under the watchful eye of Dr. C. N. Williams. Right, student SANDRA MACMILLAN learns of the intricacies of the cashier's office from university cashier Bernice Robb. (Audio-Visual photos)



Tech gets \$28,000 for overseas program

The Nova Scotia Technical College in Halifax has been given \$28,000 from the Canadian International Development Agency for an innovative student overseas program. The grant is for administering, under Professor Nelson Ferguson, an overseas technical assistance program in Barbados, St. Lucia and St. Vincent.

This program will involve sending students from Tech, as well as other personnel, to the West Indies to assist in a technical and advisory capacity, as well as supplying equipment to carry out this task.

The program was the result of the initiative and energy of Professor Ferguson who is also the campus CUSO officer. Negotiations for the grant to involve engineering and architectural students in summer work in underdeveloped countries began in February 1972. Since that time, Prof. Ferguson made a field trip to the West Indies to survey the assignment possibilities.

"The CUSO Projects Division has been extremely helpful in terms of providing back-up support for the NSTC proposal," said Prof. Ferguson. He explained that personnel employed on these summer assignments will receive salaries comparable to students working in Canada. Travel expenses will be paid, he said, and in some cases the overseas ministries will provide accommodations and some equipment where necessary.

As part of their assignment, students go through a 14-day orientation. The first week will deal with technical preparation for assignments, the second will be a cultural orientation: learning attitudes and customs of the country to be visited, as well as understanding the role of Canadian assistance to underdeveloped countries.

The object of the program is to respond to the need for technical assistance on specific problems at a working level, he said. Short-term assignments in underdeveloped countries is not a new concept, but in the past emphasis has been directed towards high level expertise. According to Prof. Ferguson, the Nova Scotia Tech program is the first of its kind in that it involves undergraduate students on a short-term basis.



Normal salary increases will be given in July

Normal salary increases will be given in July to full-time secretarial, clerical, technical and non-professional library staff at Dalhousie, Vice-President D. H. McNeill said this week.

Mr. McNeill said that the existing salary scale, structure, which has been in operation since July, 1971, was not affected by the comprehensive job evaluation program now under way at the university.

Those covered by the evaluation program include all full-time clerical, secretarial, technical and non-

professional library staff at the university.

"Any fears held by anyone whose job is being evaluated that the evaluation program means a salary freeze until the program is completed, are unfounded," said Mr. McNeill.

He added that the prime purpose of the evaluation program was to rate the jobs people were doing, and not the people in them.

When the evaluation program is completed, the current salary structure will be reviewed.

Dalhousie's Management Information Systems

Information is power – but only if it is used

By PROFESSOR LOUIS G. VAGIANOS
Director of Communications Services

Seminar for senior staff

More than 40 members of the staff of Dalhousie, most of them senior administrative officers, took part in a seminar arranged by the President's Advisory Group for Planning and Co-ordination on April 27 and 28 and May 4.

The seminar was held to provide an opportunity for senior administrators to learn about the Management Information Systems computer being developed, their implications and their potential for providing assistance in the management of the university, and for the officers to discuss the systems now in use or being planned.

In his general introduction at the seminar, Professor L. G. Vagianos, Director of Communications Services, emphasized the importance of adequate communication between the various groups. Without this, any machine system, hence the computer, was helpless and therefore ineffective. (Full text of Prof. Vagianos's address appears on this page).

Other members of the advisory group who made presentations emphasized over and over again that the computer was man's servant, and not vice versa. The reports appearing on this page and the three that follow were summarized from the presentations made by members of the advisory group. Points raised during the discussions of each segment of the seminar have been included in the reports of the vices, emphasized the segments where it was appropriate to do so.

About four years ago, I was struck by the following statement relating to the computer, automation and man's reaction to it:

Computers and automation have captured man's imagination.

That is to say, like the psychiatrist's ink blot, they serve the imagination as symbols for all that is mysterious, portentous. For when man is faced with

ambiguity, with complex shadows he only partly un-

derstands, he rejects that ambiguity and reads meanings into the shadows. And when he lacks the knowledge and technical means

to find the real meanings of the shadows, he reads into them the meanings in his own heart and mind, uses them to give external shape to his private hopes and fears. So the ambiguous stimulus, the ink blot, becomes a mirror. When man describes it, he depicts not some external reality, but himself.

More than anything I have read in recent years, this quotation best expresses to me man's need to cope, or if you will, his desire to extend his reach beyond his grasp. For man, at any level, is an animal of hope — hope founded on the belief that no matter how grim things may look, help is certain to be found.

Historically, this belief has been justified. With rare exceptions, each age has produced its potential "ink-blot," that is each age has symbols for all that is mysterious, potential, portentous. Our era is no different. In fact we are seeking our salvation in computers and automation, tools which promise to be among the most powerful and potent ever placed at man's disposal for helping him to define and fulfill his chosen ends. What is significant about these tools is the incredible array of techniques for problem solving which have been made available to everyman.

But no innovation of this magnitude arrives unchallenged or appears fully formed at the outset. Moreover, few innovations could survive long without the initial protection afforded in the form of ambiguity. In the case of computers and automation the shelter has come through the creation of new languages, techniques, and technology, each enhanced by the over-zealous salesmanship of its enthusiasts: systems analysts, systems designers, programmers and information scientists, the by-products of the "new technology." This group constitutes a special breed of medicine men with yet another potion to help cure whatever has been deemed man's illnesses of the day.

One of the current illnesses within society which has been identified and diagnosed as serious is the basis for this seminar, namely the problem of information. To some, society appears to have too much information. Further, the information has been accumulated, classified, and stored within systems which cannot be accessed easily or used efficiently. Worse still, the paper flood continues with no method for reducing the problem in sight. This is especially obvious in large organizations which, within specific but restrictive time constraints, must make decisions based on policies which will

rationalize resources according to the best dollar expenditure. More and more, such organizations are recognizing that their only hope for effective survival must be the development of a new system for decision making — one based on procedures which will optimize the utilization of information by providing a flow that ensures the appropriate information, at the appropriate time, to the appropriate user.

More and more because no other alternatives have been found, such organizations are looking to computers and automation for final solutions. Unfortunately, this will not be possible. Machines and techniques are merely tools and any tool is a means and can never be transmuted into an end. The source of most of the ambiguity and fear within society which is ascribed to computers and automation stems from this general misunderstanding.

Among the organizations which, more by default than by design, have turned for help are the educational institutions. As yet, it remains to be seen how valuable the aid will be. I say this because the education process represents one of society's major ambiguities, a process which has hitherto resisted attempts to be compartmentalized so that it can be described in sufficient, predictable detail to be standardized. In fact, applying the computer to the investigation of higher education, the goal of the Advisory Group for Planning and co-ordination during the past year, could be taken as the attempt to utilize one ambiguity to resolve another!!

Why? Because too often in the past both computers and education have been characterized as ends in themselves thus obscuring them as means and, inevitably, distorting their utility for problem solving. But the fact that, together, both have such a portentous influence within society has made it imperative that society attempt to create a synthesis which will allow the development of a much needed mousetrap for analysis. Much work has been done in this field. However, it is too generalized to be applied without considerable adaptation to local conditions.

To develop this much needed mousetrap for Dalhousie we, as a group, have made local adaptations based on several assumptions. First, education is a process; a phenomenon operating within a fixed time period, upon a predictable subject, for a defined object. The idealistic view is that education is self-motivated and limitless; but as experienced workers in the field we know that the nature of the first premise is more often false than not; and that the latter, though it may be true, is beyond our control. At Dalhousie we should be concerned only for the time that falls within our operational control, recognizing that this encompasses a process that in broad outline, is usually repetitive. There is a reason for this emphasis: a process by its nature gives rise to process control, enabling the computer to be used as one of its primary

Why a Management Information System?

Following is a summary of the presentation by Dr. M. J. L. Kirby at the seminar.

Information includes all the data and intelligence needed to plan, operate and control an enterprise. The task is thus to design a network of procedures that will process raw data in such a way as to generate the information required for management use, and implement such procedures in actual practice.

Management data, information or intelligence may be classified into four distinct types, all of which are relevant to the M.I.S. operation:

Operation document data facilitates university operations (invoices, cheques, bills, address labels, transcripts, grades, etc.);

Resources/inventory data pertains to university resources at a given date: people, material facilities; their characteristics, conditions, locations and status. It also pertains to the inventory of allowances, authorizations or allocations thereof, technical data, manuals, curricula, library content, catalogues, etc., as well as money inventory.

Progress/performance appraisal data involves considerations of expectation versus reality: work measurement, performance standards, program indicators, effectiveness measures, valid bases for prediction (planning factors, trends ratios, com-

binations) etc; and

Decision-making data involves futuristic data — objectives formulation and clarification, broad strategy definition, limits and latitudes of risk, tactics, ethics, enumeration of feasible alternatives, full implications of each alternative, probably consequences, points of no return, consideration/action thresholds, optimal courses of action, principles and policies, etc.

From these definitions it is clear that the information which the M.I.S. provides university administrators is of several varieties. First there must be information which measures and describes objects and actions in enough detail for efficient planning, action, reviews and control at all levels within the university. Second, there must be information relative to fixed plans, programs, resource allocation, schedules, and other projections. Third, there must be information which enables administrators to make valid calculations and predictions relative to future organizational happenings. The provision of these sorts of information is necessary for the M.I.S. to be sufficiently useful so as to justify its cost.

A Management Information System is an integrated array of five sub-systems: Information, Personnel, Communication, Hardware, and

Software sub-systems.

This array involves the entire university through data selection, data transmission, data processing, information storage and information retrieval.

The M.I.S. has four basic goals:

- 1 - To deliver timely, accurate information when and where needed;
- 2 - To filter information distribution;
- 3 - To allow ready assemblage of special report information; and
- 4 - To executive as many controls as feasible through internal system logic.

Since the purpose of the M.I.S. is to supply administratively required information for policy decisions, planning and goal specifications, and supplying the means for controlling operations to ensure that objectives are reached, the system must:

- 1 - Be simple and yet powerfully productive, producing only useful information and producing it quickly;
- 2 - Combine sound strategic planning with M.I.S. operation in order to implement university objectives;
- 3 - Include a budget sub-system both as an index of achievement and a means of control;
- 4 - Provide budget reports,

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Continued on Page 6

Dalhousie's Management Information Systems

M.I. Systems and the Dalhousie environment

Following is a summary of the presentation made at the seminar by Dr. G.F.O. Langstroth.

Dalhousie has made only a small first step down the road to the development of a complete system. Experience elsewhere has shown that:

There are many different routes to the creation of an M.I.S., depending on needs and problems which may be unique to each institution, therefore the use of systems designed for others must be approached with caution, if at all.

Development of an M.I.S. takes time and effort.

Major barriers to progress are the structural problems of organization and the need to secure the commitment and involvement of administrative officers.

Claims for an M.I.S. are often exaggerated and need acceptance with caution. Nevertheless, substantial benefits have been derived.

There is little agreement as to whether models for simulation and forecasting should precede, follow or develop in parallel with the information base.

The M.I.S. is not a threat to the democratic processes in the university. On the contrary, it does much to promote them. This results from the creation of a common body of information from which special needs of each decision-making group can be supplied, and an enriched awareness of how individual activities relate to the university as a whole.

A systems approach to any organization concentrates on the relationships between its parts, rather than on the parts in isolation. Studies are required of internal relations to gain understanding of operations or make predictions, and of external relations with the social, political, economic and cultural environments.

Universities embrace at least two types of decision-making structure. The familiar network of president, vice-presidents, deans, etc. appears to form a classical hierarchy. Normally, senates, faculties, departments and student groups arrive at decisions in communal fashion during meetings to which the entire group is invited. Conflicts between these two structure types are common, perhaps because the nature of multiple structure social systems is not fully understood.

A systems approach does not favor either type of decision-making structure, nor does it accept that either can ignore the other successfully. The university is perceived as a complex organization in delicate balance, in which major problems cannot be resolved by simple "band-aid" measures such as the replacement of an administrator or the ejection of a militant student leader.

As a multiple structure organization, the university must develop rules for selecting response processes in different situations. There may be obligations for speedy and precise response on one occasion and ample time for protracted debate on another. The

development of such guidelines is never easy, and is impossible to arrange in the midst of a crisis. Thus, an underlying essential is to foster a high degree of trust among the constituent parts of the university, without which suspicion and fear are inevitable.

Decisions must be distinguished from the decision-making process. A decision involves a choice from an array of alternatives and may be made under conditions of certainty, uncertainty or risk.

Three measures of the success of decisions should be noted:

QUALITY — Does the decision achieve stated objectives?

SPEED — How much absolute or relative time is required to reach a decision?

CONSISTENCY — What proportion of the decisions made by a decision-maker achieve satisfactory objectives?

Decisions made by administrators must have very high success rates in order to be acceptable. In highly routine matters, close to 100% success may be necessary for smooth operation, and greater than 90% may be required in the innovative domain to avoid costly misallocation of resources. An idealized model for the distribution of decisions in the spectrum from routine to innovative follows.

Purely rational decisions rarely, if ever, occur. They require full information and the capacity to fully foresee and evaluate all choices and consequences, together with complete control of all necessary resources.

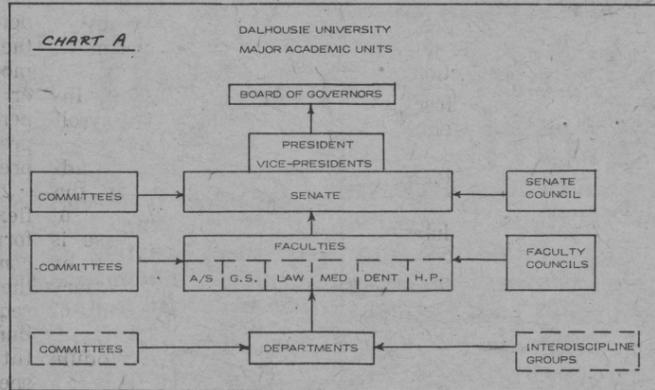
Every administrator is conscious of time and information constraints in reaching decisions and will be familiar with these situations:

- 1) An immediate decision is imperative. The administrator must rely on his experience, judgment, and plain good luck.
- 2) Necessary time and information are available and an assessment of the implications of a decision is possible. Decisions under these conditions are most readily defended.
- 3) There appear to be no criteria upon which to base a decision, and no decision is made in the hope that the problem will vanish. While specific problems frequently do disappear, their underlying causes often do not, and losses in confidence may accrue to the administrator concerned.

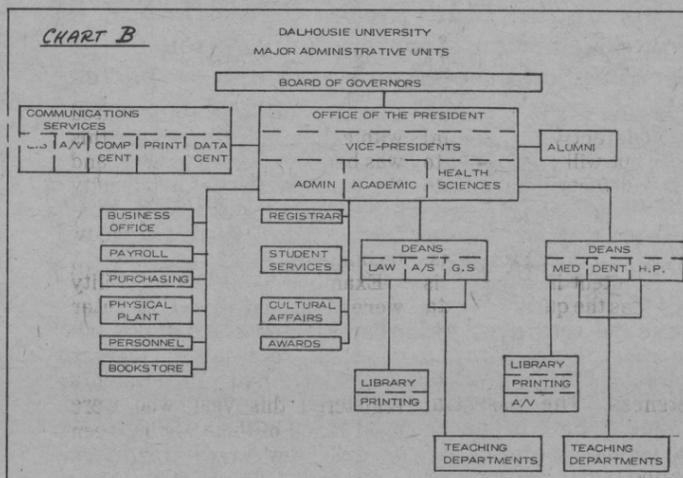
Obviously, measures to maximize events of the second kind and minimize the others are highly desirable. Careful arrangement of organization patterns together with intelligent use of M.I.S. will do much to achieve this end.

Organization of chart (A) shows in simplified form the formal academic units at Dalhousie. Within these units, academic proposals are

generated, reviewed, modified and either rejected or passed on for approval. Each unit is essentially a "community," extending to its members the rights of voice and vote, but the units relate to each other in a form of hierarchy. Students may be included according to the regulations prevailing in each academic unit.



Charts A (above) and B (below) caused some comment during Dr. Langstroth's presentation on M.I.S. and the Dalhousie environment. His view that there was no formal overlapping of units on both charts, hence inadequate communications between academic and administrative groups, were disputed by the president and Dr. C. B. Stewart, Vice-president (Health Sciences).



generated, reviewed, modified and either rejected or passed on for approval. Each unit is essentially a "community," extending to its members the rights of voice and vote, but the units relate to each other in a form of hierarchy. Students may be included according to the regulations prevailing in each academic unit.

Not shown on the chart are the informal organizations created on an ad hoc basis for the purpose of exerting pressure on one or more of the formally recognized groups.

Within this structure, it is quite common to find a sharp focus on academic issues in isolation as a basis for decisions, leaving problems of finance and resource allocation for resolution by administrative officers.

The major administrative units are depicted in chart (B). Here, academic units are represented by their chief administrative officers, for whom reporting channels are indicated.

Comparison of the charts for administrative and academic units permits several observations.

- 1) Of all academic units, only the Senate does not have a corresponding administrative unit. Officers and members of the Senate are scattered through the administrative structure.
- 2) Many administrative units with responsibilities for the provision of services, facilities and resources do not appear in the academic structure at all.
- 3) There is evidently duplication in service functions (e.g. libraries).

4) There are few cross-linkages within or between academic and administrative structures. Information flow and agreements must thus depend upon goodwill, osmosis, and the multiple activities and responsibilities of individuals, in all of which significant changes may pass unnoticed until a crisis arises.

5) The formal structures are often remarkably rigid and resistant to change. For example, action of the Provincial Legislature may be necessary to effect some changes.

6) It is possible for units to develop in isolation without adequate consideration of the interactions among them.

Such simple considerations lead to some fundamental questions. Among others, these include:

- 1) Do the organizational patterns encourage or inhibit the articulation of institutional goals?
- 2) What mechanisms are available for the assessment of performance in relation to objectives?
- 3) Can the university respond in a timely and adequate manner to changing conditions?
- 4) What degree of structural flexibility is desirable and possible at Dalhousie? Questions such as these merit consideration whether or not a management information system is evolved. The systems approach will not lead to any simple answers, but it can help to assure that the right questions will be asked.

Information is power but . . .

Continued from Page 5

supporting tools. In this sense, the curriculum and planning elements of the university can be taken as a "programme," the students are "raw input," the classroom/laboratory as the "work table," the professor as the "tool," the support service as "enrichment," and the graduating student as the "finished product." Dropouts and failed students are, of course, "culls." The main point here is not to say that education is exactly like a manufacturing plant, but to say that education, with some definitional adaptations, can be analysed and managed as if it were, utilizing tools, foremost of which is the computer and its supporting technologies, which would enable us to spot problems sooner, to forecast alternatives, and to show which areas of the university are achieving their self-stated goals. One of the themes implicit in all presentations of this seminar is the multitude of ways in which the application of machine technology to the educational process can be of benefit to those who administer it by providing the necessary data upon which value judgments can be made. Such an approach will require administrators to make some decisions and choices which, despite the quality of results may still be painful.

The complexity of the educational process in the modern university is of sufficient magnitude that by the time any of us comes to know all the details in the manner we would prefer, the system has changed, forcing us to begin again. In short, the pace of change in today's university situation produces a high rate of obsolescence among administrators, and the consequences of such obsolescence can be serious in terms of university efficiency.

There are several ways this problem can be minimized. The most important method relates to communication: adequate communication between administrators, personnel, and technical advisors. Without such communication, troubles will not be diagnosed in time, ensuring duplication in planning effort, waste in resource allocation, and disaffected personnel. Further, it is important to communicate the benefits of the system under examination to the professor (especially those benefits which accrue to him directly) since there is a high probability of academic hostility to any system which will result in stronger control of university procedures. It is important to communicate the merits and entry points of changed systems to the students, our primary concern, so that they may be calmed a bit. It is also important to communicate the benefits of improved university operations to the public, who "pay the shot." Without such communication, plans and purposes float in limbo, and there is ample opportunity for misunderstanding or for the timid to be stampeded.

The Advisory Group for Planning and Co-ordination has been asked to develop and implement a Management Information System for Dalhousie. Clearly, this will involve much needed advice and counsel from many individuals throughout the university.

Dalhousie's Management Information Systems

Modules need other modules and people

A module is a software package identified with a specific operation (e.g., payroll). Modules cannot be designed in isolation from each other or from personnel involved in the associated operation.

Systems analysis attempts to define the inter-relations among modules in order to maximize the effectiveness of the overall information system. Systems analysis techniques applied to the operation associated with a given module will clearly identify problems, perhaps hitherto

unrecognized. As a result administrators are provided with the necessary information for deciding upon remedial action.

But systems do not direct people. People direct systems, and it is essential that administrators communicate their needs.

Prospective Dalhousie modules are:

- Student Information System (S.I.S.)
- Alumni;
- Library Circulation;
- Payroll; General ledger;

Budget; Purchasing; Accounts Payable; Accounts receivable; Inventory; Personnel;

Of these, the Student Information System and Payroll system are in operation.

The participation of administrators is crucial to the successful definition of requirements. If this phase is well done, revision can be minimized to only that necessary for the accommodation of changing conditions.

Considerations for module operation:

1 — Update frequency is determined by the demands of the functional task served by the module. Frequency may be fixed or varied to accommodate periods of high activity. The production of a report is normally preceded by an update of the file.

2 — Report structure should be flexible to produce information in formats desired by users. Report content is critically dependent on the initial definition of user requirements. Modules cannot think. They will not anticipate future requirements without specification, and modification

can be expensive.

File security is of concern to everyone because of possible abuse. Several measures can reduce risks to a minimum:

- 1 — Restricted access to system documentation.
- 2 — Software internal control.
- 3 — Multiple passwords for all files.
- 4 — Locking up of all files in a safe place.
- 5 — Restricted access during production.
- 6 — Locking confidential reports in a safe place.

The sections on the university's M.I.S. modules were presented during the seminar by MRS. PAT BEWERS, a member of the Advisory Group for Planning and Co-ordination.

Any system is only as good as the data it is given

During the session dealing with specific module systems of the Dalhousie M.I.S., a good deal of discussion was forthcoming.

Mrs. Bewers explained that there are basically two types of information systems — interactive and batch.

Interactive systems allow the continuous updating and interrogation of files remotely. The costs are considerable, both in terms of software and hardware. The software is expensive since it must be of considerable sophistication. The hardware requirements are extensive and in most cases must be dedicated to the system being serviced; the hardware is usually duplicated to increase reliability.

Batch systems do not permit continuous updating and interrogation of the files, which are performed at pre-determined intervals. The files of a batch system can be stored on-line (disc) or off-line (tape). Tapes are accessed sequentially; to read any tape record, all information on the tape which comes before the information required must be read. Date transfer rate for tapes is 42,000 characters a second, but to a computer whose instruction speed is 10 million characters a second, a tape unit is slow. A sequential file stored on a disc can be read 10 times faster than that on a tape.

Mrs. Bewers compared Air Canada's ticket reservation system with Dalhousie S.I.S. and Payroll computerization.

Air Canada's, a real time system in which a potential passenger can be told within seconds if there is a seat on a particular flight, was interactive, on-line, highly sophisticated and very expensive.

On the other hand, the S.I.S. and Payroll systems at Dalhousie were batch systems, had some drawbacks but were inexpensive.

The S.I.S. module consisted of two files: the student file and the class file.

The student file consists of records containing personal and academic information since 1968. This year in co-operation with the Awards Office and the Faculty of Graduate Studies, scholarship and awards data will be added to the student file. The class file consists of class records since 1968 for the Faculty of Arts and Science, the Faculty of Health Professions, and the Faculty of Graduate Studies.

A machine system cannot remedy defective manual operations but will serve only to bring such defects sharply into focus. Staff must be trained to appreciate the application of new technology and its limitations. Quality of content in a report is only as good as the quality of data supplied to the computer files. Missing information detracts from report quality in terms of completeness. The essential information that has to be collected for each module of the information system must be determined as a matter of policy. It is then essential that every effort should be made for the enforcement of this policy.

Dr. A. J. Tingley, the Registrar, said that since the new pre-registration procedures had been implemented this year, 800 students had already been registered for 1973-74, but if information on the class approval forms now required was wrong, there would be serious problems. In addition, he said, class schedules for next year had been published.

Prof. Vagianos agreed that difficulties could arise from the class approval forms, which were controlled by the academic departments. Unless the computer was told of changes or errors, it was helpless.

Other points raised during the discussion on the S.I.S. module were: Incorrect class lists; apparent inability of the computer to show how many students were at Dalhousie, in both theory and in practice; the noting of a student's province of origin and residence, for government grant purposes; and the examination flow chart.

On the examination flow chart issue, Professor P. B. Huber, secretary of the Faculty of Arts and Science, said he knew of errors on student transcripts over the last five years. The worst was that which showed the award of an MA to a father on the basis of a thesis written by his son, who also got an MA. There was, he said, no method of checking grade sheets.

But Prof. Vagianos said three copies of a transcript were prepared, one of which went back to a student's professor.

Dr. Tingley also mentioned the case of a girl who should have graduated in 1963, but never got her degree.

Mrs. Bewers explained that information on the student file in the S.I.S. up to 1971 was

unreliable and should be treated with caution. One reason for this was bad manual procedures, and the unreliability had left faculty and staff with distrust and antagonism towards new techniques.

Examples of the unreliability were that on the computer records of 2,000 students, no birth dates were recorded, and that the university had 90 students registered this year who were aged 72, all of them having been born on New Year's Day, 1901. The birth dates had been arbitrarily added, possibly by someone who believed the computer would not process a registration without the date. In this case, the figures 010101 had been inserted.

In addition, the enrolment reports for 1971 were inaccurate for full-time students.

These were problems which indicated why decisions had to be made about ground rules at the senior administrative level, and Mrs. Bewers made a plea for decisions not to be made without due consideration for their implications nor, in cases involving the S.I.S. and the computer, without prior consultation with the computer people.

Examination scheduling could also cause difficulties. Given a seating capacity of 1300 (in rooms suitable for exams), the number of students taking examinations, and the number of examinations, with the condition that no student write two examinations consecutively, the computer found out in only 60 seconds that 21 days of examination time were needed. "But we were allowed only 12 days."

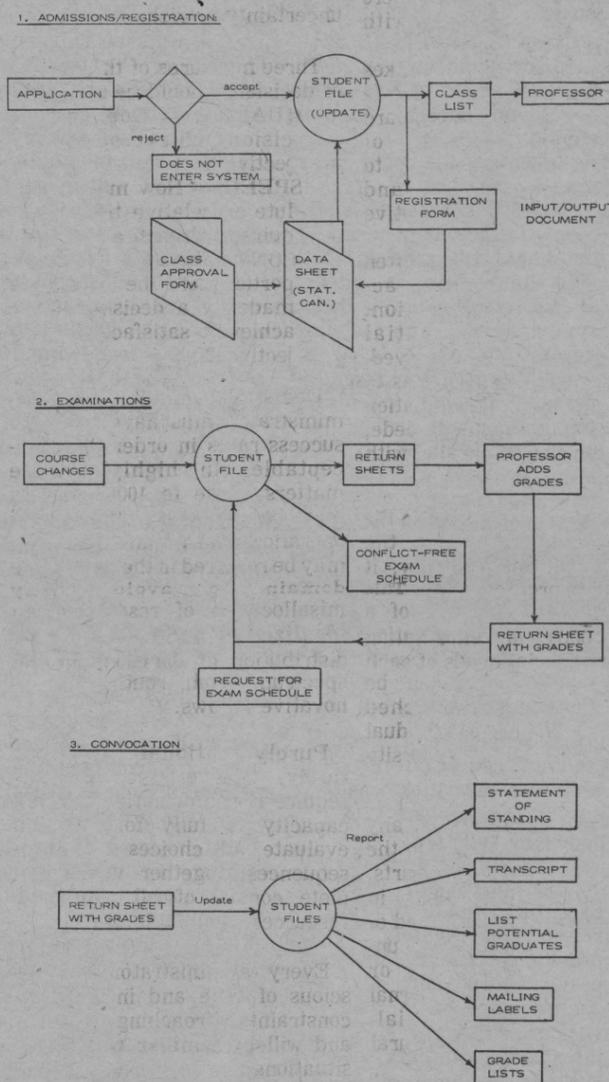
Dr. Hicks agreed that the computer staff should not be put in the position of being responsible for approving the use of rooms for examinations.

Mrs. Bewers also mentioned the "thorny" question of transcripts, saying it was difficult to get a decision on what form the transcripts should be.

Of the Payroll system, the major problem was not with the computer but with a lack of observance of deadlines for submission of changes. Cheques were issued bi-weekly and monthly. If departments did not inform the Payroll department of changes, or additions to staff in adequate time, the person expecting a cheque was the victim.

The Payroll module constitutes a first step towards an overall financial system. A training

SIMPLIFIED INFORMATION FLOW - S. I. S.



Student Information System flow charts, which show in extremely simplified form what happens when a student registers, when examinations are scheduled, and when graduation time comes up every year.

program has now been started to acquaint all staff with all aspects of the system.

Library Circulation control will use the name/address data for the automatic production of overdue notices. The Circulation control department will contribute to the information system by acting as a clearing house for name/address forms currently under design. This is an extremely useful contribution because one of the major problems that must be confronted in any information system is the maintenance of the currency of collected data.

It is planned that the basic Alumni record will be created from the Student Information System record after convocation and registration. The manual records held now will be added to the computer file over a period of years.

Of modules of the future, Mrs. Bewers said the general ledger may be the next step in establishing a computerized system of accounts. The following sub-modules could be incorporated: Budget accounting, Order system, Ac-

counts Payable, Accounts receivable, Investment accounting, and Inventory.

For budget accounting, each departmental budget would be stored on a computer file for the current year and the previous year. Any transaction that affected the status of an account would automatically update the file. Reports would then be circulated to the departments on a frequency determined by analysis.

In an Order system, for each item ordered a record would be created on an orders file by the central Purchasing Department. Prior to the creation of this record, an automatic check of the appropriate budget account would be performed to determine the availability of funds. Unfunded transactions would be rejected and the department concerned would be responsible for obtaining authorization for the order. Acceptance of transactions on the orders file would automatically encumber funds in budget accounts. Once the order had been filled, the orders file would be updated and budget

Dalhousie's Management Information Systems

Any system is only as good as its data supply

Continued from Page 7

accounts adjusted. From this an account payable record could be created. Such a system has been in operation for four years in the university library system. It has been used for ordering of books, office supplies and computer stock.

ACCOUNTS PAYABLE— This record could automatically be created when an order has been filled. Cheques could be run on a bi-weekly basis to ensure payment within 30 days to avoid interest charges. Provision could also be made to take advantage of discounts offered for early payment.

ACCOUNTS RECEIVABLE — Statements could automatically be produced and the file designed to take into account interest accrued.

The Inventory file could carry information on:

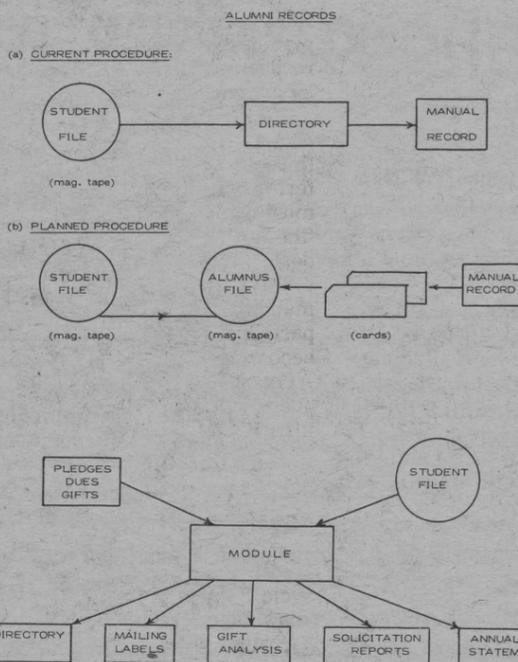
1. Property, plant and equipment (i.e. assets in terms of buildings and grounds, and equipment such as tables, chairs, scientific instruments, typewriters, audio-visual devices etc.).
2. Facilities data would contain detailed information on the physical space within the university. The S.I.S. file could be used with this information for planning and review of academic uses.
3. An office supplies inventory provides the basis for a stock

control system. A centralized stores operation could then allow the university to take advantage of cost reductions available in bulk purchasing and reduction of waste. Such a system has been operational in the university library and considerable savings have resulted.

The Personnel module will compare in complexity with the software of S.I.S. It will be one of the most important files in the university as it will carry detailed information about employees. At the same time it touches on one of the most sensitive aspects of university administration. Great skill will be needed to develop the module without arousing suspicion and fear of intrusion of privacy. Steps must be taken to maintain the confidence of employees in the security and purpose of the collection and use of this data.

The necessity for development of personnel files should be clear from consideration of the proportion of budgets allotted to salaries. No large organization can afford not to have the means for systematic reference to employee data.

The ultimate goal will be to integrate these files when experience has been gained in module operation and appropriate advances have been made in software and hardware



These charts show how the Alumni and Fund office records will be maintained once the records are fully computerized. Complete computerization of these may take several years, depending on the availability of funds.

technology. Having created the data base, the current and historical information can be used for planning for the future.

It is clear that the construction of a data base requires considerable expertise. Much of the work is involved in the development of consistent nomenclature, without which no meaningful discussion of

problems can occur.

Once the data base is established, consideration can be given to the development of mathematical models for the university. With these tools, administrators may begin to simulate the consequences of alternatives and make optimum decisions with the confidence that all feasible relevant factors have been considered.

Why a Management Information System?

Continued from Page 5

- class schedules, student loadings, course offerings, professor allocations, and material/equipment expenditure reports;
- 5 - Incorporate an inventory control sub-system which can be linked to the scheduling system to provide specific university usage reports; and
- 6 - Be designed so that the various sub-systems are integrated, with each sub-systems designed in accordance with overall system requirements, thus assuring report compatibility.

From these constraints, it follows that the success of an efficient M.I.S. depends on the efficiency of university communication channels.

The benefits of the M.I.S. are inextricably linked to the reasons for implementing such a system, and the reasons for implementing the M.I.S. can be classed in three categories:

- 1 - The conditions within and without the university which render such a system desirable;
- 2 - The benefits which result directly from the system's operation; and
- 3 - The benefits which stem from the discipline needed to set up such a system in the first place.

The M.I.S. gives university administrators unambiguous control over university information in a way previously unobtainable. Control of information in an organization is equal to control of that organization's operations. Benefits which flow from an M.I.S. operation on a daily basis include:

Giving top decision-makers the ability to grasp the whole nature of the complex

university system;

Prompt isolation of system flow bottlenecks, as well as "burglar alarm" alerting for problems arising as a result of pre-defined criteria;

Fast provision of the data elements required by administrators for daily decision-making;

Giving administrators a clear indication of the dollar effectiveness of a given program;

Giving administrators up-to-date facts about university enrolments, program elements, academic and non-academic personnel, and physical plant data.

Giving administrators the ability to address university situations in an unbiased, value-free context;

Provision of data manipulation capacity on a scale not possible with hard-copy systems;

Reduced decision-making,

data handling, and report generation costs;

Lower inventory costs through an automatic inventory re-order level system; and

Provision to meet emergency data requirements quickly.

Following are some of the types of M.I.S. reports available from systems similar to the one proposed for Dalhousie

Professor and program loading, and delineation of the program paths available;

Space/equipment loadings for each program class or other program related activity;

Actual dollar cost for educating a student in a particular program;

Actual dollar cost for supporting a professor engaged in teaching, engaged in committee/maintenance work, engaged in research work/publishing.

Benefits to administrators are

not restricted to the present, since the M.I.S. can serve as an input to future planning as well. In fact, the M.I.S. cannot justify its cost unless it can provide those responsible for the university, accurate details for future planning.

Future forecasting data which can be issued by the M.I.S. include the following examples: Enrolment projections based on reliable supporting data; statement of staff deficiencies for program projections; ranking of programs in future priority; physical plant consequences of program alternatives; forecast of academic/non-academic staff needs; costing forecasts for university operations; per seat cost of buildings; retirement age classifications of university employees; effects of different funding assumptions on university operation; effects of different enrolment possibilities on university operations; effects of failure rates on program developments; and so on.

Dalhousie's computer users

In addition to 65 per cent of Dalhousie's own departments, the users of the university's computer are many and varied — educational institutions, departments of the provincial government, the federal government, and private industry all make up the long list.

The list includes: Educational — Maritime School of Social Work, Mount Saint Vincent University, Nova Scotia College of Art and Design, Nova Scotia Technical College, Acadia, Saint Francis Xavier and Saint Mary's universities, U.P.E.I., Kings County School Board, Halifax School Board, Amherst School Board, the Atlantic Institute of Education;

Provincial government — Nova Scotia Health Council, Nova

Scotia Pathology Institute, Nova Scotia Research Foundation, Nova Scotia Power Commission, Nova Scotia Light and Power, Victoria General Hospital (School of Nursing, Radiotherapy and School of Respiratory Technology), Nova Scotia Water Resources, Departments of Education (Amateur Sports and Royal Commission on Education, and summer school), Mines, Lands and Forests, Highways.

Federal government — National Research Council, New Brunswick Newstart Inc., Canadian Society of Respiratory Technologists, Bedford Institute, APICS (Atlantic Provinces Interuniversity Committee on the Sciences), Department of the Environment (Fisheries services), Department of the

Environment (Water Survey), Department of National Defence (Maritime Command), Department of National Defence (CFB Halifax), Department of Environment (Protection Services).

Private industry — Canadian British Engineering Consultants Limited, Hermes Electronics, Maritime Life Assurance, Stevenson and Kellogg, Twin Cities Co-operative Dairy, Computing Consultants Ltd., Dymaxion Research Associates, Fetal Risk Project, Abbey Lane Hospital Project, and several private consultants.

A number of institutions have terminals which are connected to the CDC 6400 Computer at Dalhousie.

What's a computer?

It's an electronic machine that manipulates symbols in accordance with given rules, in a pre-determined and self-directed manner.

But the computer has acquired a language of its own.

Following is a partial glossary of computer terminology:

ALGORITHM — A specific procedure for solving a problem.

ASSEMBLER — A program which is part of a system's software, designed to translate symbolic codes into machine language.

BATCH PROCESSING — The running of jobs as complete units usually by submission of cards or tape, as opposed to interactive processing.

BIT — Binary Digit, or one unit of memory.

BUFFER — A storage area.

COMPATIBILITY — The ability of an instruction or source language to be used on more than one computer.

COMPILE — To produce a binary-coded program from a program written in a high level language.

CORE MEMORY — The main high speed storage of a computer in which information is represented by the switching of polarity in magnetic rings.

DISC — An external storage device for storing programmes and data needed quickly in memory.

FIELD — A specified area of a record used for a single type of Data.

HARDWARE — The physical machinery, circuits, transistors etc., which constitute the elements of a computer.

INTERACTIVE MODE — The type of computing system which permits a user to enter requests or commands and receive instant response from the computer.

OFF-LINE — Pertaining to equipment or devices when not connected directly to the computer memory and not under the control of the main processor.

ON-LINE — Pertaining to equipment or devices connected directly to computer memory.

PERIPHERALS — Equipment in a computing environment outside the central processor and memory; e.g. the card reader, line printer, disc devices, etc.

RANDOM ACCESS — A storage device in which the data can be obtained without regard to its serial positioning.

RUN — To have a program processed by the computer. The running of a programme to produce reports in the final format (as opposed to producing sample reports) is called a production run.

SOFTWARE — The totality of programmes and procedures available on a computer.

TIME-SHARING — The type of processing where several programmes in memory are each allocated short processing periods so that all appear to be processing at the same time.

WORD — On each computer, a fixed number of bits taken as the fundamental data storage size. On the CDC 6400, 60 bits make one word.

Familyplanning: concern grows

By JOAN TEED

"If the world were not so full of people, and most of them did not have to work so hard, there would be more time for them to get out and lie on the grass, and there would be more grass for them to lie on."

— D. R. P. Marquis

A family planning survey of three different socio-economic areas of Halifax has just been published by the Department of Preventive Medicine, Dalhousie Medical School.

The researcher, Virginia K. Elahi, says, "There is growing concern over the rapidly increasing world population. Many people recognize the existence of this problem but there is not total agreement on its implications."

The Halifax-Dartmouth metropolitan area has three sources of family planning services: private physicians, many of whom have not received adequate training in family planning; the Family Planning Clinic at the Grace Maternity Hospital, open one afternoon and one evening a week; and the Metro Area Family Planning Association, which opened a full-time information and referral center in downtown Halifax in February, 1971.

The Family Planning Association center is not a clinic, and requests for medical services must be referred to physicians. It is felt by some health workers that these services may not be adequate for the need that exists in a metropolitan area with a population of about a quarter of a million.

The data in the study was collected from volunteer married female heads of households between the ages of 15 and 44. As their socio-economic status increased so also did age, education and current birth control usage.

Knowledge, attitudes, and practices in family planning did differ with the three socio-economic groups, but these differences might be influenced and confounded by differences in education and age.

LITTLE DIFFERENCE

"The difference between Protestants and Catholics was not as great as some might have expected. In general the data indicated a liberalization of birth control attitudes among Catholics.

"The percentages of Protestants and Catholics who were currently seeing a medical person about family planning were relatively the same, 32% and 33% respectively, as were the percentages currently using birth control, 69% and 68% respectively."

The percentage of participants currently using birth control methods increased with age, as the women finished building their families. Two-thirds of the fertile couples were currently using birth control. The most common method of birth control being used was 'the pill'; next was rhythm, the I.U.D., and the condom. Use of the pill decreased with age.

"The increasing use of less effective contraceptive methods with increasing age probably reflects the participants' belief in a decreasing probability of their becoming pregnant," states Mrs. Elahi.

Considering the relatively high popularity of rhythm, questions on knowledge of the basic theory behind this method were interesting.

MOST ACCURATE

The high income group had the most accurate knowledge (12% said they did not know the day of greatest chance of pregnancy in a 28 day menstrual cycle), while the middle income group had the least knowledge (41% said they did not know.)

"Not all women who had used rhythm appeared to be well educated in the basic theory behind this method, as 38% said they did not know the day of greatest chance of pregnancy, or gave an answer that was outside the range of the 12th to the 16th day. Such a lack of knowledge would doubtlessly lead to the failure of rhythm as a birth control method for these women."

The survey found "the low socio-economic group had the highest percentage of participants who were currently going to a family planning clinic or seeing a physician about birth control, as well as quite a high percentage of women who had done so in the past," says Mrs. Elahi.

"In spite of this, the low socio-economic group had the smallest percentage of current or past users of birth control, and appeared to be the most dissatisfied with their present family size. This may reflect some problems with the type of family planning services available to the low socio-economic group, for example the services are inappropriate, are not suitably used, or fail to educate or motivate these women."

Participants were asked the number of living children they had, and also what they considered the ideal number of children. Comparison of the two responses can be used as a criterion of success in

planning one's family, since the number are the participant's own ideals, not the ideals of an outside party.

In the low socio-economic group, 39% had more living children than they felt a family should have, in the middle level the percentage was lower (27%) and in the high socio-economic status lower again (23%).

Says Mrs. Elahi, "The large percentage in the low socio-economic group is noteworthy because this group is the most economically unprepared to have more children than the mother feels is ideal."

It is also significant that the ideal number of children for a family decreased up the socio-economic scale, so those with low status became dissatisfied after having a greater number of children than the other two groups.

LEAVE IT TO CHANCE

The reasons given for why every family cannot control when and how many children it has, show some interesting differences. The most frequent response among the low-socio-economic group was that Chance or Fate decides when and how many children a family will have.

The middle class group of women gave as their most frequent response that not all women can use the birth control methods available.

The high socio-economic group most frequently cited lack of knowledge as the reason preventing many families from controlling these factors.

The low socio-economic group had the highest number of participants who felt that a family planning clinic should open up in their area (93%); next was the middle group (75%) many of whom said that their neighbourhood was predominantly older people, and a family planning clinic was not needed; only 40% of the high socio-economic group were in favour of a clinic, many saying they were educated enough or had their own physicians.

Says Mrs. Elahi, "Canada has not yet been faced with a situation of population pollution on a national level and hence many Canadians do not see the need for a population control program in Canada."

"A critical situation does exist however, in some Canadian cities in terms of housing, transportation, and quality of the environment.

"Furthermore, many individuals throughout Canada can testify to what unwanted pregnancies or children can do to the quality of life of parents and children. This indicates that although Canada may not need a population control program at present, there is a definite need for family planning programs."

Evidence supports need for five clinics

Commenting on the Family Planning Survey, Dr. J. Philip Welch of the Department of Pediatrics, and President of the

Metro Area Family Planning Association, agrees that "there certainly is a need for family planning clinics in this area.

Evidence could be drawn from this study to support this need."

In the United Kingdom, he pointed out, studies indicate

that their present ratio of one clinic to 50,000 people is not sufficient, so we must be entitled to four or five here by

population."

Lack of knowledge of methods of birth control, low current use of birth control, and dissatisfaction with family size reflect the want in some areas of metro.

The results found in the Family Planning Survey indicate a need in low socio-economic areas, and middle socio-economic areas with a young population.

"Those interviewed generally favour clinics in Dartmouth, the North End, and the waterfront areas. We in the business have the impression that Spryfield is an area of young families with low to middle incomes, but impressions are not as valid as hard facts and study," says Dr. Welch.

"The people living in the waterfront area said they thought a clinic in their area would be a good idea. This subjectively declared need is politically important. What people feel about this should be considered as well as proven need.

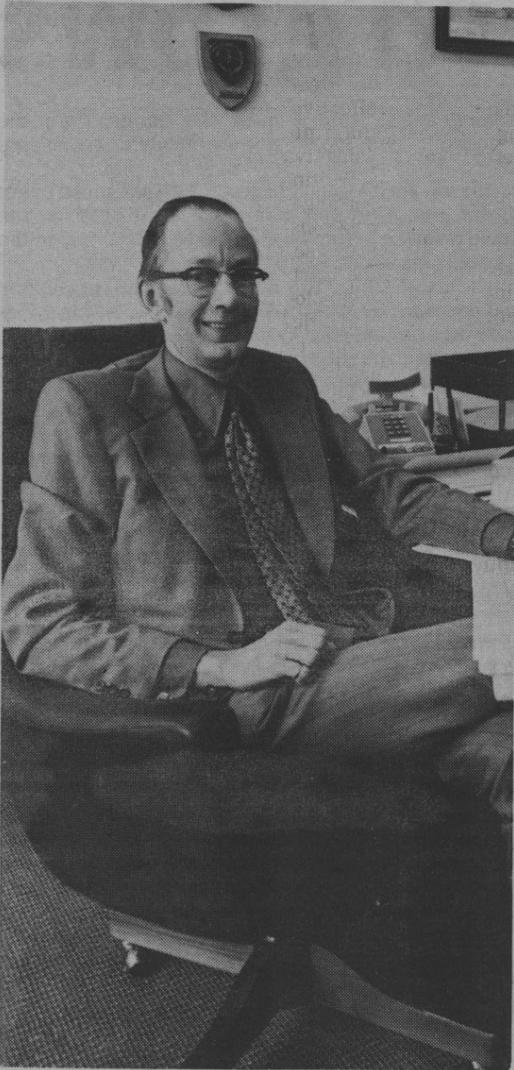
"There is thought of the North End Family Planning Center becoming a full clinic. The Family Planning Association is interested in it. The difficulty is finding money for organization and staff.

"We have asked the question — do we carry on with what we are doing in referrals and advice, or expand? We are not sure of the outcome, but certainly this referral center is better than nothing."



The Nova Scotia Heart Foundation has made a grant to the Dalhousie Medical School to assist in professional continuing medical education. Foundation President, J. J. Fortune, second from left, made the presentation to Dr. L. B. Macpherson, Dean of

Medicine. At left is Dr. M. R. Clark, director of Continuing Medical Education, and at right is W. E. Matheson, executive secretary of the Nova Scotia Heart Foundation. The grant to the medical school was double the foundation's prior contribution.



Arthur Chisholm and Catherine Peacock have been at Dalhousie for 25 years. Both have seen the expansion in number of students, staff and in physical plant. Each holds a responsible position and have demonstrated their dedication and loyalty to the university.



First hand view of expansion

As Director of Physical Plant, Art Chisholm's job involves the operation and maintenance of all buildings and grounds; peripheral duties such as the mail system, and the activities associated with the security of buildings; the physical arrangements for major functions such as university convocations; and serving as university representative during construction of new buildings.

This month marks 25 years service to Dalhousie.

Within this time span, he has witnessed an increase in personnel from 25 (when he was assistant professor of engineering and assistant engineer in charge of buildings and grounds) to the present complement of 370.

Policies and people have changed over the years, including the formation of two unions in the setup.

The magnitude of the workload has coincided with the expansion of physical plant.

The dimension of change, he says, can be seen in the number of supervisory and administrative personnel in the department — 16 now as compared with three people (part-time) in 1948.

His most difficult assignment was when university construction was at its peak. Within the confines of a few short years, Mr. Chisholm (as university engineer) was on the site of the thermal tunnel excavation and on hand as the Life Sciences complex, the Arts Centre, the Killam Library and the Central Services Building were all rising and taking shape.

"As a service unit of the university, we get our share of problems", he says.

"The major ones are the settling in problems associated with the opening of a new building — we have to clean up the deficiencies. It's tedious but I have a fine staff and it's all part of our job."

In a reminiscent mood, he recalled chatting with the late C. D. Howe (one time engineering professor at Dalhousie and later university chancellor) who was back as a visitor lecturing to students;

* The time that the former president, Dr. A. E. Kerr, having completed his formal remarks, almost forgot to confer degrees at a Fall Convocation ceremony; and

* Congratulations for a job well done in expediting the outdoor convocation arrangements marking the opening of the Kipling wing of the MacDonald Library.

Looking back over the years, Director Chisholm noted that the opening of the Sir Charles Tupper Medical Building — "a fascinating and exciting building" was certainly a milestone for him.

There have been others but the awarding of a Gold D (an honour award) to him by the Student Union at the official opening of the Student Union Building in 1968 was certainly a moment to remember.

Married with four children, Art enjoys camping and wood-work in his off-hours.

Always something new to learn

Even though payroll supervisor Mrs. Catherine Peacock has been employed at Dalhousie for 25 years, she's still learning.

She's convinced that no matter how old you are or how long you have been at one job, there is still something new to be learned.

Mrs. Peacock began work at the university as an accounting machine operator at a time when the entire business office staff consisted of 8-10 people and around the time she recalls when Donald McNeill (vice president, administration) was business manager.

"We were housed in the old MacDonald Library along with the president's office while the registrar officed across the 'quad' in the Men's Residence (now the Arts Annex)."

The campus looked very different then. The buildings on Studley included the library, the gym, the men's residence, the old Law Building, Chemistry Building, Shirreff Hall and the Murray Homestead.

Down the street on University Avenue stood the Forrest Building, the medical library (demolished since then) and the Public Health Clinic (now the Clinical Research Centre).

From accounting machine operator she assumed other general office and bookkeeping duties (pensions and internal

audit of the purchasing journal).

Now as payroll supervisor she and her staff of six are responsible for the entire payroll operation. This means paying 3,000 people a month, about 900 of which are bi-weekly. In addition her staff looks after all the processing associated with new and departing personnel.

The operation which is a unit within the business office is now computerized.

"We have experienced three payroll changes in the system in the last four years. The most recent was July 1, 1972, when we went on computer . . . It was a lot of fun programming everyone for the first pay after installation"

Catherine Peacock who has never had any formal training in accounting loves to work with figures (math was her favorite subject in school) and has her own philosophy about work.

"It's rewarding to go home knowing there's been a job well done. It's not enough to work for a pay envelope — you should get satisfaction and fulfillment from the work you do."

Married to Thomas Peacock, they have two daughters. She enjoys good music — everything from rock to classical. She is active in her church, loves the country and, when time permits, enjoys bowling and badminton.

Directory being compiled

Data is now being assembled for the 1973-74 telephone directory by staffers Carol Stuart and Janet Plowman of the Information Office.

Notices to this effect have gone out to all departments and offices, each of which will be contacted shortly for the relevant information.

The directory will consist of an alphabetical listing of staff (married or single, fulltime or part-time); office phone number; rank or position; room number; building location; and home address. Listing by departments will also be included.

Hastings talks about his report

A health care centre or some kind of local entity offering people primary health care and social services with back-up resource capabilities (man and technology) within the community is the conceptual approach taken in the Hastings Report of 1972 — and one in a series of events taking place in Canadian health services at the federal and provincial level.

This was the theme of author John Hastings talk to staff and students of the Dalhousie medical school in its Health Care in the '70's lecture series.

Dr. Hastings, a specialist in public health and a professor of health administration at the

University of Toronto, spoke on the community health centre report and of the current developments and thoughts related to it. Basically he said, the question that had come to light in carrying out the study are fundamental issues — problems of distribution of services, technical assistance and citizen involvement; the relationship of health and social services; and the question of quality of service.

Our concept of a health centre, he said, is the pulling together of a group of professional and technical people in an organized way to provide a service to the com-

munity and one that holds promise of utilizing present expenditures in a better way.

Factors involved in such a scheme are the need for a functional setting to ensure quality of care; responsible municipal, professional and citizen involvement; the establishment of basic programs by government but ones that allow for flexibility and innovation to meet local needs.

Hastings and his colleagues who helped prepare the report visualize a new scheme for payment of services, a design that allows for a common and

effective record system and maximum communication using two-way radios and TV.

Waiting in the wings according to Hastings is a greater relationship between health and social services, a willingness on the part of professionals and technologists to work together and a distinct desire to develop broad responsibility through public input.

The report which he regards as a form of national input has had wide readability. It has focused attention and discussion on the matter of health centres among federal officials and provincial health councils.

Appointments announced

The appointments of a Dean of Freshmen, an Assistant Dean of Medicine, program directors and department chairmen are among staff changes announced by Dr. Henry D. Hicks, Dalhousie president.

Dr. W. J. Archibald has been appointed Dean of Freshman. Dr. Archibald, a former Dean of Arts and Science, will continue his duties as professor in the Department of Physics.

Dr. B. K. Doane has been appointed Assistant Dean of

Medicine (Inter-departmental Affairs and Research). He will continue his duties as associate professor of psychiatry.

Other appointments include those of:

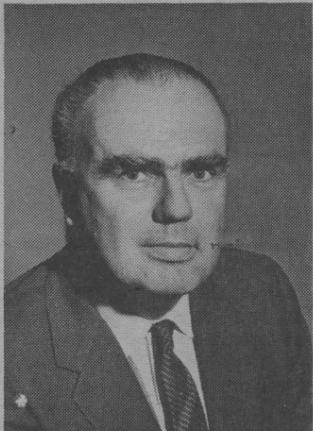
Peter Fletcher as professor of music and chairman of the Department of Music.

Dr. M. J. L. Kirby as professor in the Department of Commerce and director of the Government Studies Program.

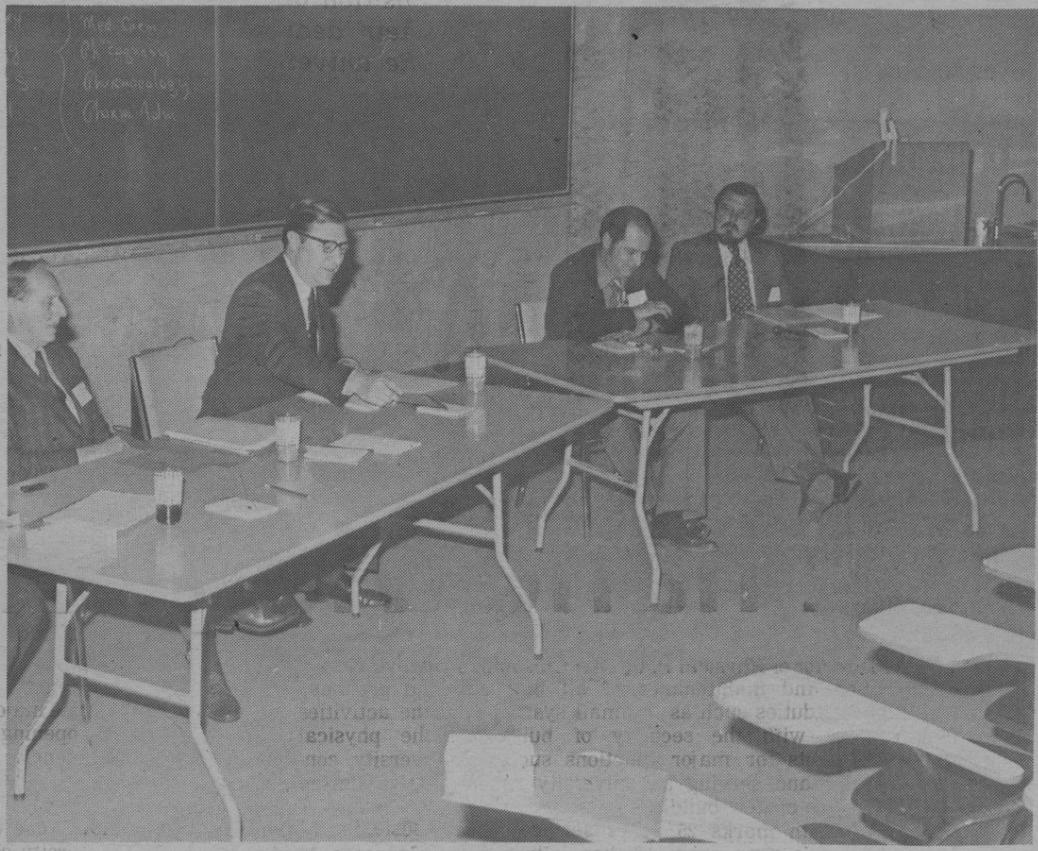
Dr. M. D. Nixon as assistant professor and director of extramural programs in the Department of Continuing Medical Education.

Sonia Jones as acting chairman, Department of Spanish.

Other recent changes at the university include the appointment of Alan H. MacDonald as Medical Sciences Librarian and Librarian, Faculty of Medicine; and the resignation of Byron D. Anthony as director of the Labor-Management Bureau, Institute of Public Affairs. Mr. Anthony has since commenced duties as Deputy Minister of Municipal Affairs, Province of Nova Scotia.



Dr. W. J. Archibald



A panel discussion on "Problems in Teaching Pharmaceutical-Medicinal Chemistry in Pharmacognosy" was one of the highlights of the the conference of the Association of Faculties of Pharmacy of Canada held at Dalhousie. Panel participants were, left to right: Dr. E. E. Smissman, University of Kansas; Dr. H. W. Youngken, Jr., University of Rhode Island; Dr. M. Pernarowski, University of British Columbia; Dr. D. Z. Simon, Universite de Montreal; and Dr. G. R. Duncan, University of Toronto.

Over 150 attend dental assembly

More than 150 dentists, assistants and dental hygienists practising in the Atlantic provinces are attending the first Post-College Assembly organized by the Faculty of Dentistry at Dalhousie.

Dr. D. V. Chaytor, chairman of the Faculty's continuing education committee, said that the response from practitioners in the region had been excellent.

The assembly, which is taking the form of a two-day continuing education program, alumni reunions, a teacher education session, and the dental school's convocation ceremonies, began on Sunday.

The featured clinician at the two-day course and the teacher education session is Dr. Maury Massler, associate dean of postgraduate and teacher education at the University of Illinois College of Dentistry.

Dr. Massler, who has held university teaching posts since 1939, has been a visiting professor and education consultant to dental schools around

the world — Italy, Germany, South America, India, Australia, Israel, Finland, Denmark, Norway and South Africa.

His voice was first heard in Halifax in 1951 via a North American telephone hook-up which brought a series of continuing dental education presentations from the University of Illinois to a Dalhousie classroom set up for local practitioners.

Dr. Massler's subject will be changing concepts in the prevention and treatment of dental caries, the disease that causes cavities.

Those attending the assembly will be able to attend the annual meeting of Dalhousie Alumni Association Monday.

On Saturday, the Halifax County Dental Society held its annual closing party, and on May 16, the Faculty of Dentistry's first separate convocation will take place in the Rebecca Cohn Auditorium of the Arts Centre.

Sub-committee examines courses

A report in the last issue of University News correctly reported that the curriculum of the Faculty of Arts and Science had recommended three business education classes being taught at St. Patrick's High School, Halifax, as being acceptable for entry at Dalhousie.

The curriculum committee in fact withdrew its motion at the faculty meeting after it was agreed that the question of handling innovative courses in high schools be examined in a broader context.

Professor Gordon B. Jeffery, chairman of the curriculum committee, said that a sub-committee has been established to consider the matter during the summer and will make a report in the fall.

He expressed his personal opinion that there did not appear to be any insurmountable problems in having the request approved.

Prof. Jeffery particularly wants it known that any student who needs advice on the acceptability of their high school program may obtain authoritative guidance from the Dean of Freshman, Dr. W. J. Archibald.

Back issues of review sought

Back issues of the Dalhousie Review are in short supply and business manager, Mrs. Leona Gorman will accept copies from subscribers who may no longer have any use for them in their personal libraries.

There is always a call for back issues, says Mrs. Gorman, and our supply is getting low.

Dal-Tech: final proposals soon

The Dal-Tech Steering Committee, established last year to consider recommendations from the faculty of the Nova Scotia Technical College that the college become part of Dalhousie University, expects to have a draft statement of principals on the proposed amalgamation available for discussion at its next meeting at the end of this month.

The steering committee last week set May 23 as the deadline for completion of all sub-committee reports. When the reports have been submitted, a member of the committee from Tech and one from Dalhousie will assemble a draft report containing proposals which may be put before the governing bodies of the two institutions.

At last week's meeting, the co-chairman, G. N. Kent, chairman of Tech's Board of Governors, said he thought the committee was now in a position to submit a proposal for amalgamation to the Boards of Governors.

"There has to be a framing of intention. I have not had drawn to my attention anything that appears to be an insurmountable problem (to amalgamation)."

Professor W. A. MacKay, vice-president (academic) at Dalhousie and the other co-chairman, reported that the academic sub-committee had held a number of meetings since November, but the administrative sub-committee had not met.

Dean A. E. Steeves, acting president of the N.S. Tech, and Dalhousie vice-president MacKay presented verbal reports at a joint meeting of the executive committee of Dalhousie's Board of Governors and the Senate Council last month. Both said there appeared to be no insurmountable problems to completing satisfactory arrangements toward amalgamation, and hoped to submit final proposals to both institutions within the next few months.

Bacon Collection on display at Killam Library

Items from the Dalhousie Bacon Collection, recently acquired by Dalhousie University Library, will be displayed in the lobby of the Killam Library during convocation week.

The collection, considered the third largest collection in North America and the only significant Bacon collection in Canada, will normally be housed in the Morse Room of the Killam Library.

The Dalhousie collection consists mainly of books written by Sir Francis Bacon (1561-1626), with a few written about him or related to him, nearly all printed before 1750.

It contains copies from more than half of all the editions of his writings, and numbers over 200 items, including 180 from the 17th century.

The collection was formed by Bacon's bibliographer Reginald W. Gibson, and includes items not recorded in his catalogue. It has a unique copy of the *Essays* (1680), one of the two known copies of *Three Speeches* (1641) with the portrait of Bacon, as well as 15 items from first and only editions, and over 70 from first editions. It includes such rare pamphlets as *Speech Concerning Naturalization* (1641), *The Learned Reader* (1642), and *Ordinances Made* (1642).

It can show all the rare multi-volume editions of the *Opera* printed on the Continent in the 17th century, including those of 1684, 1685 and 1696, which are not in the British Museum. It also has the English Blackbourne edition (1730) and the Mallet edition (1740). More unusually, it has the rare 15-volume French edition (Dijon, 1799-1803), uncut, and on large paper.

Associated books include Augustus II's *Cryptomenytices et Cryptographiae Libri IX* (Lunenbourg, 1624).

The collection is the most notable addition to Dalhousie's rare book collection since the Cockerell Collection of fine bindings (1936), the James Stewart Collection of Canadiana (1910), and the Kipling Collection (1955).

The collection may be viewed between the hours of 9 a.m. to 5 p.m., Monday to Friday, during the summer. Longer hours will be arranged in September.



Two of the people deeply involved in the job evaluation program at Dalhousie are job analysts Kevin MacDonald and Judy Kenney. The evaluation program, begun in November, is designed to cover all full-time positions involving clerical and technical staff and non-professional library staff who are on the university's payroll.

Events

- AFRICAN WRITERS CONFERENCE May 9-11
REGIONAL DEVELOPMENT POLICY CONFERENCE May 11-12
"National Policies-A byproduct of Canadian regional development objectives?"
FACULTY OF DENTISTRY'S POST-COLLEGE ASSEMBLY May 13-16
ALUMNI CLASS REUNIONS May 14-18
Classes of 1923, 1933 and 1948
SUMMER SCHOOL (First Session) May 22-June 29
TOPS CONVENTION May 24-28
CAMERA CANADA CONVENTION June 7
CANADIAN ASSOCIATION of LIBRARY SCHOOLS ANNUAL MEETING June 15
SUMMER SCHOOL Second Session July 3-August 17

Nursing educators honored

The annual meeting of the Atlantic Region, Canadian Association of University Schools of Nursing, was held at Mount Saint Vincent University.

Jeffery Holmes, executive director of the Association of Atlantic Universities, attended the meeting and addressed the group as to the purpose of the AAU and its relationship with the Atlantic Region, Canadian Association of University Schools of Nursing.

Dr. Helen Naum was presented with an honorary membership in the Atlantic Region of the Association for her contribution to university nursing schools in the Atlantic Region.

Miss E. A. Electa MacLennan

was presented with a Life membership in the Association, for her contribution to nursing education in the Atlantic Region and the information of the organization.

Mrs. Jacqueline Legere, Universite de Moncton, reported on the conference she attended in Banff, Alberta, in February. The theme of the conference was "Health Services Today — and Tomorrow?"

In conjunction with the annual meeting, Dr. John L. Southin from the Biology Department, McGill University, conducted a two-day workshop for the 44 members who registered, and six students who were invited participants.

Dr. Southin used a lecture and

video-tape to present his involvement with modular building for self-paced learning. The advantages and disadvantages for both student and teacher in using this method for learning was brought out. Following this, the participants formed small groups to work on building modules that could be used in nursing.

The workshop concluded with the groups reporting back to the total group the problems they encountered in building a module for the item they had chosen to work on. Everyone was quite involved and benefited from the exercise.

The nursing faculty of Dalhousie University was represented by 16 faculty members.