

November 26th, 1969.

Minutes of the Science Faculty Council held in Room 306 of the Buller Building at 2:00 p.m. on November 26th, 1969.

Present: Drs. P.K. Isaac, H. Lees, D.G. Douglas, I. Cooke, W.R. Wall, J.H. Loudfoot, R. Longton, D. Punter, G. Robinson, E.R. Waygood, J. Walker, J. Templeton, K.K. Ogilvie, R.J. Lockhart, N.E.R. Campbell, J.C. Jamieson, A. Turnock, F.W.J. Davis, H. Halvorson, B.G. Whitmore, P. Gaunt, K. Subrahmaniam, B. Kale, K. Mount, J. Svenne, A. Giesinger, W. Aitchison, B. Johnston, L. Ellis, R.H. Green, A. Chow, H.B. LeJohn, I. Suzuki, D. Burton, M. Toxopeus, G. Lubinsky, C.C. Lindsey, C. Woods, M. Aleksasuk, J.M. Gee, N. Evans, T. Dandy, H.E. Welch, T. Schaefer, H.E. Duckworth, S. Standil, A. Donner, D.H. Hall, D. Anderson, G.S. Clark, J. Cherry, R. Barber, F.M. Kelly, E. Bock, S.K. Sen, M. Kettner, F. Konopasek, M.J. Oretzki, B. Noonan, G.O. Losey, N.S. Mendelsohn, H. Finlayson, D.A. Young, R.D. Connor, S.K. Sinha, W.G. Barker, R.H. Betts (67)

Regrets: J.M. Vail, H. Weisman, E.I. Leith

- (1) Minutes of the last meeting on September 18th, 1969 were approved on motion by Dr. S. Sen (E.R. Waygood).

The Chairman expressed his sadness at the two deaths which had occurred since the last meeting, namely, Dr. K.I. Roulston, and Miss R. Condo, daughter of the Vice-President and Comptroller. Miss Condo was killed in a car accident at the gates of the University. In tribute to Dr. Roulston a memorial was presented by Dr. Morrish (appended). It was moved by Dr. Morrish that the memorial be included in the minutes and a copy be sent out to Dr. Roulston's family. This motion was approved by the silent standing vote of all present.

- (2) The Chairman read a letter that he had received from the Science Student Council requesting the establishment of a Student Affairs Committee, the purpose of which would be to discuss the topics of mutual concern between staff and students. The Committee was intended to be non-official and would not preclude the student from additional representation on such bodies as the Faculty Council and Faculty committees in the future.

Discussion of this proposal centered on the matter of staff selection for membership to the Committee. While some members of Council felt that the staff contingent should be chosen by the staff members themselves, or by the Dean; others felt that if this Committee was to be truly useful, the students had to have complete confidence in it and therefore they should choose the staff members. Results from other faculties that have similar groups indicate that they are successful only when the students have this complete confidence.

It was noted by Dr. Kelly (Davis) that the suggestion proposed by the Chairman, namely that he write to all staff members explaining the proposed Committee and requesting volunteers and then forward this list to the Science Student Council for selection of six staff members to match up with the six student nominees, be accepted and that any further discussions as to the Committee's makeup, meeting time, etc. be determined by that Committee. The motion was carried unanimously. At this point in the meeting Dean Connor asked Dr. P.K. Isaac to take the Chair.

(3) Admission Regulations

The Dean gave a brief outline of the reasons which instigated his memorandum of November 4th to Dr. Sibley (then Dean of Arts and Science). It was his feeling that the current regulations were far too complicated and were rapidly approaching a point where they would become totally unworkable. As more courses were offered in High School for which the University did not specify in its regulations, the more problems, appeals and concessions that would have to be granted. As an example of this the Dean mentioned several of the committees which have been established to handle such matters - Student Standing, Arts and Science Admissions. Students who 'know the ropes' and wish to appeal any regulations do so and very often are successful on getting them set aside but nowhere is the student body at large, advised that the regulations may be appealed. If the regulations are not being implemented, therefore what is their purpose? It was Dr. R.D. Connor's proposal that any five passes, three of which were Board Standing and two school, from the courses approved by Senate, with a language (English or other) at any level of attainment comprising one of the five passes, would constitute fulfillment of the entrance requirements into University.

The main point was that departmental prerequisites for entry into first year courses would be set aside. The department specifies that the 120 course is based on a knowledge of a Grade XII 300 level course and while the department will strongly counsel students against proceeding into a field in which their background is deficient, a student who very much wishes to try the course would not be excluded.

This would only be a temporary plan however, because eventually nationwide achievement tests (S.A.C.U.) were likely to be the vehicle for University entrance.

Dr. Standil wished to know the route that this proposal has taken and where it stands at the moment. Dean Connor explained that his original memorandum went to the Arts and Science Executive which passed it onto Senate. They in turn referred it to their Admissions Committee who sent copies to all Schools and Faculties inviting comments as to the acceptability of the proposal. A copy reached the Arts and Science Admissions committee who discussed the matter and voted 8 to 6 in its favor. These results were forwarded to the Arts and Science Executive who thought it best that the individual councils discuss the proposal before submission to Senate

Admission Committee. Therefore, the Science Council discussion here today would go to the Senate Admission Committee as Science's recommendation.

Dr. Kelly was of the opinion that Mathematics was a far more appropriate subject to be required than English or a second language and he felt this should be made a requirement. It was also his feeling that many more students would be wanting to take courses for which they had no previous training and this would result in the University offering a host of 90 level, makeup courses. Dr. Losey said that the abolition of departmental prerequisites would also contribute to the necessity of establishing makeup courses.

Dean Connor, in replying to these two comments, stated that although it was possible students might wish to take courses for which they had no previous training, he hoped this would not be the case. Why a student would suddenly want to take 1st year physics for example when he had not taken it in High School, he couldn't imagine. As far as making Mathematics a required subject, he admitted he could see the logic in this for Science. However, Mathematics was not now a required course in Arts and he didn't feel he should make it so in his proposal.

Dr. Noonan expressed concern in the fact that if we did allow students into courses, normally requiring pre-training, who did not have this training, our failure rates would increase significantly and comment would inevitably be received from the administration. He felt he would like to have a list of those students in the particular course who did not have the pre-training, so that he would know how many of the failures had no previous training.

The Dean reminded Council that it had always been envisaged that departments would know their students' backgrounds and that the Registrar had agreed to produce for departmental use two lists, those who had entered with the normal pre-training and those who did not have that training.

He also said that in his view the main concern might not be the possibility of having people in courses without the normal pre-training, but rather that there could be a shift in the student population from some disciplines to others. For example there might be a shift from Physics to Biology in the High Schools and these students might continue on to University in the areas of their High School work whereas at present many take Physics with their other subjects in order to keep all doors open. They are not particularly interested in Physics but may and often do continue on to take at least one course of University Physics.

In reply to a comment by Dr. Kettner that to be useful these regulations must have University-wide support, Dr. Connor stated that he envisioned the other two Universities in the province accepting these regulations once they are passed by University of Manitoba. He went on further to say that the regulations were briefly discussed at a Canadian Universities Registrars' meeting not too long ago and they were received very warmly and with much interest.

At this point in the discussion the following motion was put forth by Dr. Bock (W.R. Wall).

"that what is said in the document (Dean's, November 4th memorandum) in paragraph three, be accepted by this Council with a recommendation that a full stop be put after the word "standing" (in other words omit the last two lines of paragraph three).

In the subsequent discussion Dr. Mendelsohn said that he felt that a special value could be placed on any subject for its requirement not just the languages and in his opinion the language specification should be dropped altogether.

Dean Connor wished to bring the Councils attention to the fact that although the abolishment of the departmental prerequisites is not mentioned in the motion on the floor it certainly was intended.

Dr. Cooke suggested that it would be more appropriate if agreement was reached on the motion passed by the Arts and Science Admissions Committee with the recommendation of the original motion. This was acceptable to the mover and seconder of the original motion and to the Council members thus the following motion was passed unanimously by the Council,

"That the Committee approve the recommendation for changes in the regulations for University entrance, subject to adequate safeguards of standards and the acceptance by the University of more extensive counselling responsibility with a further recommendation that the last two lines of paragraph three, namely 'with a language (English or otherwise) at either level of attainment comprising one of the five passes to be presented' be deleted."

(4) The Separation of the Faculty

A Brief submitted by the Arts Council outlining their position with regard to the proposed creation of a separate Faculty had been received by Dean Connor. Because of its very-wide distribution and considerable detail the Dean informed Justice Dickson that the Science Council might wish to reply to it after having discussed it at today's meeting.

The Dean proposed to the Council members that the original Committee set up to formulate the Science Brief be re-established to produce a reply to the Arts Brief. He stated that there are many points contained within the Arts Brief that are inconsistent and should be clarified and he would like the Council's opinion whether or not a reply was in order.

Dr. Hogg was of the feeling that a reply would only tend to create another dialogue between the two Councils which he felt would be of no benefit. A delegation from Science would be appearing before the Dickson Committee and any clarification that need be done could be done then. If we are to re-establish the Science Brief Committee then why not have them consider such problems as what is likely to happen to the departments caught between the split, namely Psychology, Anthropology and Geology.

Dr. Standil agreed with Dr. Hogg. He pointed out that the strongest point in the Arts Brief was their fear of the problems caused by the split on the rest of the University. These matters had been considered in detail by the Rennie Committee. Why not forward their findings to the Dickson Committee. Members asked what was the Rennie Committee and Dr. Welch inquired as to the present position of the Rennie Report. Dr. Bock who is a member of all three committees involved (Rennie Committee, Arts and Science Executive, and the Dickson Committee), answered that the Rennie Report had been presented to the Arts and Science Executive but because the report was intended to solve the problems assuming a split would occur fears had been expressed that it would be interpreted as a document from Arts and Science favouring the split. The Executive thought that the report might be misleading and requested certain clarifications. This is now being done. He continued by saying that any information that could be brought to the attention of the Dickson Committee would be most welcome.

Dr. Losey, who is also a member of the Dickson Committee, suggested that the Science Council request that the Rennie Report be presented to that Committee.

It was Dr. Barker's view, which was shared by many of the other members that a reply to the Arts Brief would be in order.

The following motion was proposed by Dr. R.D. Connor (W.R. Wall),

"the Committee which set up the original Science Brief be reconvened to formulate a reply to the Arts Brief." CARRIED 2 OPPOSED

Dr. Losey, because of his position on the Dickson Committee, asked that he be released from his duties on the Science Brief Committee. The Chairman agreed.

Dean Connor inquired of Dr. Losey as to the best method of presenting the Science reply. Dr. Losey replied that the best plan would be to have a written presentation sent to Justice Dickson followed by reinforcement verbally when Dr. R.D. Connor was called before the Committee.

- (5) It was proposed by Dr. Cooke that the Council give Dr. Barker a round of applause for a job well done during his position as secretary to the Council, while at the same time welcoming the new secretary. There being no further business the meeting adjourned at 4:35 p.m.

IN MEMORIAM

PROFESSOR KENNETH IRWIN ROULSTON

The University of Manitoba lost a distinguished Professor of Physics on November 2nd, 1969, in the passing of Kenneth Irwin Roulston at Johns Hopkins Hospital, Baltimore, Maryland. His death was most untimely - Dr. Roulston was only 53 years of age.

Kenneth Roulston began life as an Irishman on the 4th of August, 1916, in Armagh, in Ulster. His early schooling was in Northern Ireland, first at Castle Gardens School in Newtownards where, in 1928, at the tender age of 12 he won the Down Company Council Secondary School Scholarship. He then proceeded to Campbell College, Belfast, where he received scholarships or prizes in each of the years from 1929 to 1934. In 1934 he graduated, having obtained first place in Northern Ireland, the McNeill Memorial Medal for Mathematics, the Down Company Council University Scholarship, and a Sizarship in Mathematics to Trinity College, Dublin, which he entered in the fall. He remained at Trinity College until 1940. During that era he regularly achieved first class honours in experimental science and in mathematics and graduated with a B.A. degree in 1938, having won the gold medal for first place, the Fitzgerald Scholarship, and the Hackett Prize. He held the rank of Assistant Lecturer and Demonstrator in experimental physics after 1938 and was awarded the M.Sc. degree for research work on deposition of metallic films. From 1940 to 1942 he served as a physicist at the Standard Telephones and Cables Ltd. where he worked on barretters and valves (tubes). He resigned in



order to volunteer for active service with the army. From 1942 to 1946 first Lieutenant and then Captain Roulston of the Royal Electrical and Mechanical Engineers was engaged in the radar maintenance in the air defence of Great Britain, in communications maintenance for Headquarters of the 2nd Army in North Western Europe, for the British delegation at the Potsdam Conference and finally in technical control of the Hamburg Radio Station. After demobilization he was employed by Elliott Bros. of London where he worked on some electronic problems including radar.

Kenneth Roulston's Canadian career commenced in the fall of 1948 when he was appointed Assistant Professor of Physics at the University of Manitoba. In those days the teaching duties were exceptionally arduous in terms of contact hours with students. Nevertheless, he found the time to play a major role in the initiation of the first major post-World War II research program in the Physics Department. In his association with Professor R. W. Pringle he developed a scintillation detector and applied it to the study of the decay schemes of some radioactive nuclei. He also applied this type of detector to geophysical prospecting for both uranium and oil. In 1952 he was awarded the Ph.D. for a thesis based on this work (the 3rd awarded by the Physics Department). He, together with Dr. R. W. Pringle and Dr. G. M. Brownell, established a commercial company for the manufacture of scintillation detectors. This company was one of the few of the science oriented firms established in Canada after World War II. Shortly thereafter, in 1953, he was promoted to Associate Professor.

Among his administrative contributions, he served as Acting Chairman for the Department of Physics in 1956-57 and as a member of the University Senate. In 1959 he was promoted to the rank of Professor. In 1960-61 he was on leave which he spent primarily in California. Finally, he was on sabbatical leave at the University of Delaware at the time of his death.

His career in research extended over more than 30 years, effectively commencing in 1938 when he published his first paper "The Sputtering of Oxide-covered Magnesium Surfaces" in the Proceedings of the Cambridge Philosophical Society. His doctoral work has already been mentioned. He continued to be interested in the application of electronics to detectors and to use them for the investigation of nuclear spectroscopy. He also became interested in the solid state processes involved in luminescence. When the construction of the Cyclotron was commenced at the University of Manitoba he was a member of a small committee of three that was involved in design and development of the machine. He was the supervisor of a substantial percentage of the graduate students enrolled in the Department. Three students, R. Williams, I. H. Naqvi, and W. R. Wall, did their doctoral theses under his sponsorship. In all he published a total of 21 papers and held 32 patents. Professor Roulston was a Fellow of the Institute of Electrical and Electronics Engineers, a Fellow of the American Physical Society, a Fellow of the Institute of Physics, a member of the New York Academy of Sciences and a member of the Canadian Association of Physicists.

Ken Roulston was a quiet and modest man and never raised his voice in anger. His retiring nature, however, in no way prevented him from acting as a friend to his colleagues in the Physics Department. He and his wife, Peggy, acted as ideal hosts on many occasions. He never shirked from the performance of the duties to his profession and to the University. He handled his activities in a definite and positive manner. Ken Roulston obviously had serious health problems for a long period of years, without complaint and without loss of cheerfulness. His loss to the Department of Physics and to the Faculty of Science is great. He will be remembered by his many friends and colleagues.



THE UNIVERSITY OF MANITOBA

FACULTY OF ARTS AND SCIENCE  
OFFICE OF THE DEAN  
WINNIPEG 19, MANITOBA  
CANADA

November 18th, 1969.

TO ALL MEMBERS OF SCIENCE COUNCIL:

There will be a meeting of the Science Council on Wednesday,  
November 26th at 2:40 p.m. in Room <sup>306</sup>207 Buller Building.

A G E N D A

- (1) Memorial.
- (2) Student Committee.
- (3) Admissions Committee.\*
- (4) Arts Brief to the Dickson Committee.
- (5) Other business.

\*The following motion was passed by our Admissions Committee:

"That the Committee approve the recommendation for change in the regulations for University entrance, subject to adequate safeguards of standards and the acceptance by the University of more extensive counselling responsibility."

The Executive has referred this motion to the separate Councils for further consideration.

R. D. Connor,  
Dean of Science.

RDC/lm  
attach.

## M E M O R I A L

Kenneth Irwin Roulston was born in Armagh, Northern Ireland, in August 1916. He went to school in Belfast, later proceeding to Trinity College, Dublin, for his undergraduate work. His Master's degree was awarded by Trinity in 1940. Many academic awards and prizes were his during this time. After a brief period in industry, he served with distinction for five years as a telecommunications officer in the Royal Electrical and Mechanical Engineers (R.E.M.E.).

He came to The University of Manitoba as an Assistant Professor in 1948 and was one of a small group which was instrumental in reactivating the research programme of the Department of Physics. His studies in nuclear spectroscopy and, in particular, in nuclear instrumentation, led to international recognition.

In 1952 he received his Ph.D. from this university. Indeed, his Doctorate was the third to be awarded by the Physics Department of this university. Since 1952 he contributed very significantly to the teaching and research work of the Department. He also served as a member of Senate and, among other committees, was a member of the Executive of the Faculty of Arts and Science. A recent honour was his election to Fellowship of the Institute of Electrical and Electronics Engineers.

His worth was recognized by his promotion in 1953 to Associate Professor and in 1959 to Professor.

Ken Roulston was a quiet, dedicated man with deep convictions who will be much missed by his many friends and colleagues.

November 4, 1968

### Entrance Requirements to Arts and Science.

I wonder if I could initiate, through you, a general discussion within the Executive of Arts and Science of our entrance requirements? My reason for so doing is that I think we have backed ourselves into a corner and are in danger of having produced a system which is virtually unworkable without endless meetings to hear appeals, grant waivers, and dispense mercy, all of which add up, I believe, to the fact that the regulations are not capable of doing what we want them to do, or seek to defend an indefensible point of view.

Let me begin by stating what I propose shall be the General Entrance Regulation. (This might apply universally and not to Arts and Science alone.) It is as follows:

"To enter the first year of Arts and Science a student shall present from the Grade XII list of subjects approved by Senate, at least five passes at least three of which are Board standing with a language (English or other) at either level of attainment comprising one of the five passes to be presented."

First year departmental prerequisites are abolished. In their place students are advised that such and such a course is the normal prerequisite. This preserves the quality of the level of first year instruction by indicating that the course in question is considered sequential to a certain high school course or courses. If a student elects a course for which he does not have the normal pretraining, he must have very good reasons for so doing. If the normal pretraining for Mathematics 120 is Mathematics 300 at the high school and the student wishes to enroll with only Mathematics 301, why should we prevent him? Other universities in the Province will admit him and after a year with them, he will present himself to us for full credit for a year's work. All we are doing with our present rigid regulations is increasing the first year enrolment elsewhere.

It will surely be said that by diluting the course with untrained people, the offering must be weakened. Not so. The course level is set.

If an untrained man is in the course and has trouble, he may be guided to extra reading to assist him, but it is up to him to choose which discipline he will tackle. For too long we have been trying to save students from the consequences of any errors they may make and we have seen the thanks we get. They are mature people upon whom this responsibility rightly should lie. It is not up to the instructor to begin far back just in

case he has any untrained people before him. It is a complete fiction to believe that, at present, by virtue of our inflexible regulations, we have a uniform group of students in front of us. Even those departments whose regulations are the most stringent, of their own volition, admit as special cases, students who do not meet their regulations.

Can we take pride in a system in which the docile student, reading the regulations and recognizing his deficiency, goes elsewhere, while the more aggressive man appeals and petitions and finally succeeds in circumventing the regulations? Are we all aware that fifteen per cent of the present first year are out of province students who cannot have had our 300 courses? Do we all realize that three per cent of the present first year are from Ontario and who therefore present only four and not five final year high school courses?

A glorious example of our present dilemma is our current entry regulations to Science (June 4th - Senate minutes, Section 3) in which to preserve departmental rigidity we say that if a student comes in with Biology instead of Physics he must make up (somehow) his Grade XII Physics before proceeding to second year courses in Geology and Biological Sciences. Without Grade XII Physics he may not enter Physics 120 or Chemistry 120, but the lack is no barrier to further work in Mathematics.

Because P.S.S.C. Physics is a two-year sequence program a student may not pick up the Grade XII portion thereof and this is a perfectly sensible point of view. The only Grade XII Physics which is not dependent on Grade XI is the present traditional course which we wish to phase out. There is no surer way to guarantee its permanence than to have it available year after year as a summer course. If substantial numbers drop high school physics and substitute biology, considerable damage could be done to the physics program in the schools. Inevitably students will think they can enter Physics 120 and Chemistry 120 and not meet any academic difficulty provided they have the biology. We have already seen how poor the advice given to students can be.

It is to be expected that in a few years the "A & O" plan will disappear and be replaced by S.A.C.U. tests which are nation wide. How then, can we defend our parochial view that only certain 300 courses are acceptable to us?

Students may well enter (if this proposal is adopted) with English 301 or French 301. I believe the fears of my colleagues in these areas are as unfounded as were their fears

... continued page 3 ...

when English was made no longer compulsory in our first year. Then it was thought that there might be a complete decimation of these courses. This didn't happen. I believe these Departments are well content with the results of the free choice of students and, in my view, are operating from a far sounder base.

If a student wants to try English 120 with either "O" level standing in English 300 or "O" level standing obtained in English 301 (why should "O" level standing not be obtained in this way?), surely it is up to him to prove himself. We might be pleasantly surprised.

Another argument we are bound to hear is that with class "dilution", that faceless thing called "the Administration" will be cross if failure rates reach too high a level. I can only say that in the last six years "the Administration" has not been cross with anyone over failure rates.

The Registrar tells me he can produce two lists -

- (a) Passes and failures of those entering with the normal prerequisite; and -
- (b) Those who enter without it.

Surely this would be safeguard enough.

With such a scheme for entry there is a reasonable chance that the other provincial universities might accept it too, making a uniform requirement across the province. This does not exist at present.

Remember, also, that new subjects are likely to be at the Grade XII level in a year or two: Economics, Computer Studies, Philosophy, to mention a few. Shall we reject them all now, sight unseen?

Are we prepared to meet each one as it arises as a special case, like Biology, and agonize our way through several years of administrative entanglements?

Or, shall we try to adopt a realistic entrance statement which, I believe, would not dilute our degree programs and which would remove once and for all the problem of the High Schools and their Grade XII program?

R. D. Connor,  
Dean of Science