Proc. 10th New Zealand Geothermal Workshop 1988

PROFESSOR R. N. BROTHERS AND THE GEOTHERMAL INSTITUTE

M. P. Hochstein.

Professor R. N. Brothers had promised to write a short note to these Proceedings describing the important points which led to the foundation of the Geothermal Institute at the University of Auckland; he was not able to do this since he died on 30th May this year. I undertook to write his contribution using my memory and some early letters still on file.

Nick, as he was known to all of us, had a keen interest in interdisciplinary studies. When I joined the Geology Department of this university at the end of 1972, he offered immediate support for my interest in geothermal studies which led to exploration work in Java, Vanuatu (jointly with Dr. Robert Heming), and to surveys of Mt Tongariro and several hot spring prospects in the Hauraki Depression (NZ). Most of these studies were completed within the rather short period between 1973 and 1976. Staff from other university departments were also involved at the same time in geothermal research, namely Associate Professor Ron Keam (Physics) and Associate Professor John Aggett (Chemistry) in the Faculty of Science; at the School of Engineering Associate Professor Michael O'Sullivan (TAM) and Associate Professor Derek Freeston were looking after geothermal reservoir and fluid transmission problems respectively. Although most of this activity was carried out by individuals it formed the basis for the later involvement of the university in geothermal training.

When Jim Healy visited the university in May 1975 and asked us whether a geothermal training course for candidates from developing countries could be established at the University of Auckland, under UNDP sponsorship, Nick was the first one who saw that such a course was feasible. He obtained the immediate support of the Vice-Chancellor, Dr. C. Maiden, and a few days later some qualified support from the Dean of the School of Engineering, Professor A. Titchener. During the next two weeks, Nick and I sat together to formulate a proposal which contained all the key elements of the detailed proposal formulated almost two years later, namely:

1) A 1 year Course at graduate level should be offered to both earth scientists and engineers; it should be open to interested New Zealand students.

2) The Course should cover both overview and specialised topics and should be examinable.

There was no parallel for such an interdisciplinary course at Auckland nor at any other New Zealand university and we had to anticipate the likely problems of such course in the first proposal. Because of the strict quinquennial funding of New Zealand universities, Nick anticipated that the course could only be designed on the basis of outside funding and that funds were required for a few new lecturers since the course could not, even as a pilot scheme, be started with existing staff. Costs for foreign students were to be covered by fellowships.

It was this proposal, which was sent in June 1975 to the New Zealand Ministry of Foreign Affairs (MFA), Wellington, and to Jim Healy, which started negotiations between UNDP, New York, and MFA.

We did not hear much about our first proposal for the next 18 months except that UNDP sponsored a fact-finding mission in 1976 in which Jim Healy participated and which showed that there was a significant demand for such training in at least 10 developing countries involved at that time in geothermal investigations. However, during this time Nick continued to prepare the ground for the Geothermal Course both inside and outside the university; he had anticipated already, at this early stage, likely problems related to standards for admission, housing for a large group of foreign students, immigration and many other problems and obtained helpful advice from all sides. Nick also encouraged me to seek further support from N.Z. Government departments (mainly DSIR, and MWD) and the New Zealand private industry who might become involved later in the teaching of some specialised topics. At the beginning of 1977, Nick had obtained the full support of Professor Ray Meyer, then Head of the Mechanical Engineering Department and Dean of the School of Engineering, for our proposal - Ray, in turn, brought Derek Freeston into the venture and our plans looked suddenly feasible, if the "green light" would be given by UNDP, New York.

The late Professor R. N. (Nick) Brothers

The driving force in New York so far as we were concerned was Mr. Bruce Harland, a Divisional Director of UNDP, who had to solve the problem as to which UNDP division could fund the course. Little did we know at that time that this was indeed a major task since UNDP was set up to sponsor aid projects in individual countries but there was hardly a division interested in the funding of a project involving fellows from at least 10 different countries. However, Bruce Harland obtained the agreement of Mr. Bill Mashler (then Director of the Division for global and inter-regional projects, DGIP) to sponsor the Auckland Course.

About the beginning of 1977 we heard from MFA that DGIP wanted more information about the proposed Geothermal Course. Nick, Ray, Derek and I started to look at further details in relation to the suggested syllabus. I clearly remember that Nick anticipated the likely problems arising from a variable academic background of earth science candidates from developing countries and he suggested that the earth science course be split into a revision paper (which later became the 86.101 paper) and an advanced one (now 86.102). Professor Meyer, in turn, suggested that for compatability with other Diploma Courses given at the School of Engineering, a written project should be included (which became the 86.606 project). Derek and I tackled the difficult problem as to which topics (and in which order) should be covered in the common core lecture paper and in the specialised lecture courses. When it came to practical training, I still remember Nick's words: "Allow for sufficient field trips; a well prepared trip should teach these students more than a fortnight of lectures"; the time for field studies was increased to 3 weeks (now 24 days).

The draft of the syllabus for the Geothermal Diploma Course was then circulated in April 1977 to all interested departments at the university, to N.Z. Government departments involved in geothermal work, to private industry, UNDP and to everybody who had previously shown some interest in the course. I believe that we mailed about 70 copies of the draft asking for comments. The returns were not all encouraging, and we received only about 35 back; some believed that the course was too difficult, even for N.Z. students, others believed that geothermal technology (as we saw it) was probably not an academic subject, but that the training might be suitable for technicians. Finally, there was a slender majority which approved the syllabus adding valuable comments. After all comments were considered, a preliminary budget for a 2 year pilot project was drawn up which based on Nick's foresight, included salary components for an Administrative Assistant, a secretary, and a technician, as well as funds for 3-1/2 full-time staff members.

I went on study leave in August 1977 and Nick looked after all the subsequent preparations. After UNDP New York had approved the pilot course at the end of 1977, Nick put the final proposal before Science Faculty in March 1978, and on 1st May 1978 the course was approved by Senate. The Diploma Course was approved by the UGC Curriculum Committee in June 1978 and the first contract with UNDP (INT/76/007) was signed on 27th July 1978. In April 1978 Nick had suggested in a letter to the Vice Chancellor that a Board of Studies be established which should include representatives from all university and Government departments involved in geothermal technology and the N.Z. Ministry of Foreign Affairs to monitor the standard of the course and the performance of the Diploma students.

When I returned from my study leave in June 1978 the Geothermal Institute had been set up in the remarkably short time of 6 months. Invitations for the first Diploma Course were sent out in July and the first Board of Studies was called in September 1978 with Nick as Chairman. The first Board of Studies included Dick Bolton as representative of Ministry of Works & Development, Neville Dench (GENZL Ltd.) and Jim Healy (DSIR) who will be honoured at the 10th Jubilee Geothermal Workshop as foundation members - but Nick Brothers was the "godfather" of the Geothermal Institute.