

Society of Crystallographers in Australia



SCA

Newsletters

No 33, February 1997

The SCA homepage is located at <http://www.sca.asn.au>

FROM THE PRESIDENT

It has been difficult to start this column, since I knew the lead item had to be the untimely death of Doctor E.N. (Ted) Maslen. Ted was certainly well known throughout the crystallographic community, in Australia and abroad, for his scientific and personal contributions to it. I suppose I remember him best through his regular attendance at SCA meetings, arriving, as I recall, with a car load of dusty students after the non-stop drive across the Nullarbor. Nor did he rest after this drive - his participation in the meetings and in the affairs of the SCA was notably active. Ted's role in securing the XVIIth IUCr Congress for Perth, and in running that very successful meeting will not be forgotten. But to those who knew him better, and they have written elsewhere in this *Newsletter*, Ted was also Head of Department, a City Councillor, a devoted family man, and so on. Ted was indeed a remarkable man, and will be sorely missed. I am sure I speak on behalf of the SCA membership in extending deepest sympathy to his family, colleagues and friends.

In November, I attended the FASTS (Federation of Australian Scientific and Technological Societies) Council meeting in Canberra. FASTS is a lobby group representing a number of societies in biological, chemical, earth, ecological, marine, mathematical, medical and physical sciences, with estimated total membership of around 40,000. It has been successful in establishing contacts with politicians, government and the media, and has recently secured *ex officio* membership of the Prime Minister's Science and Engineering Council. A possible weakness is, that in an organisation which must argue the economic and industrial benefits of science, there seems to be little industrial representation. The main business of the FASTS Council was to agree the Ten Top Policies (<http://bimbo.pharmacol.su.oz.au/fasts/TenTop97.html>) - these will serve to focus FASTS activities in 1997. The Council heard from shadow minister Martyn Evans, and minister Peter McGauran, just back from a meeting of APEC Science Ministers in Korea. From Korea, McGauran noted a high regard for Australian basic research, regional concern about encouraging good students into science, and moves to encourage mobility of scientists. By taking questions, the minister encouraged a healthy exchange of views. It will always be difficult to assess the impact of FASTS on government science policy but, in my view, the SCA subscription (now \$4-50 per member) is worthwhile.

At a different level, we had a visit recently (February 20th) from Bertram Brockhouse, 1994 Nobel Laureate in Physics. Bertram, now retired, had arrived on the Oriana, and was to leave on the Canberra on its last voyage out of Sydney. Thanks to the initiative of several people (I think this all started over drinks in Seattle), and to the sponsorship of the AIP, ANSTO and the University of New South Wales, Brockhouse was persuaded to give a talk on his work (entitled Neutron Scattering: The Grand Atlas of the Physical World and the Remainder), and to join some of us for dinner after his talk. A notable and most pleasant occasion.

It has been my habit to include in this column something on neutron and X-ray synchrotron facilities, which are of interest to many crystallographers. Agreements relating to use of the Advanced Photon Source are in place, and the investment and first of the maintenance payments are now being arranged. The Photon Factory is down until October. In my quest for more detail, I discovered all my regular informants were out of the country - attending a 'Korean-Australian Workshop on the Applications of Synchrotron Radiation' sponsored jointly by the Australian Academies of Science and Technological Sciences and Engineering and the Korean Science and Engineering Foundation and being held in Pohang, Korea, 17-20 February. Certainly sounds as though they are busy. In regard to the neutron diffraction facilities at HIFAR, ANSTO is

presently reviewing the role of its Neutron Scattering Group. I cannot anticipate the outcome of this review, but it is my hope that the neutron facilities at HIFAR will continue to play a significant role in Australian crystallography.

Finally, I can say that the arrangements for Crystal XX are proceeding well (<http://www.canterbury.ac.nz/chem/crystal.htm>). The program is coming together very well, and now includes 2 sessions dedicated to Ted Maslen. I understand a good number of registrations is being received. I look forward to seeing you in Queenstown.

Chris Howard

Obituary

Edward Norman (Ted) Maslen

(8 Aug 1935-2 Feb 1997)

Crystallographers, indeed scientists the world over, will be saddened to learn of the untimely death of Ted Maslen at 61 years of age. The Departmental Head of Physics at the University of Western Australia collapsed and died during a long distance race on a hot Sunday morning, February 2 1997.

Ted was born in the outback gold-mining town of Kalgoorlie in Western Australia. He was educated at St Patrick's College, Geraldton, a coastal fishing town, after the family moved there in 1947. At the University entrance exams in 1951, he was awarded a prestigious General Exhibition and proceeded to the University of Western Australia in Perth where he commenced a long and productive career in Physics. He was an outstanding student, gathering prizes en route to a Rhodes Scholarship in 1956. His numerous extracurricular activities included various sports, excelling in particular at athletics and rowing; he also began to exercise his talent for 'politics', becoming President of the Guild of Undergraduates at UWA in 1957. At the time, Western Australia had no medical school, and it is a grand irony that he led a student fund-raising appeal for one, in the midst of which he contracted tetanus after spiking himself while competing in an athletics meet. This illness made newspaper headlines because the traffic past Royal Perth Hospital was diverted to keep his hospital ward silent, and this publicity gave the fund-raising campaign a memorable boost. He did recover, and there is a wonderful picture of him sitting up in bed to present a cheque for the then very substantial sum of ten thousand pounds to the campaign manager.

His Rhodes took him to Oxford and St Johns College in 1957-59 where he was supervised by Dorothy Hodgkin for a DPhil in crystallography, working on structural aspects of penicillin and cephalosporin. He also met Sheila Robinson whom he married, raising subsequently a family of eight children. He returned to UWA in 1960, as lecturer in physics, becoming senior lecturer in 1963 and reader in 1968, attracting a significant and effective group of research students, many of whom have gone on to become eminent in their fields (Hugo Rietveld for example). Although he was also a good theoretician, his experimental interests focused on extracting the utmost out of diffraction data, X-ray and neutron, for families of related crystal structures. Later he progressed to the detailed study of the electron distributions themselves, a field in which he was a pioneer.

Ted was influential in introducing the first electronic computer to UWA, followed by a four-circle diffractometer in the mid-60's. With the acquisition of a

second instrument in 1971 he established the Crystallography Centre at the university, for which he was

director until he became head of physics in 1993. Through his leadership over those 25 years the work of the Centre gained prominence in a number of crystallographic areas. He became a recognised authority in precise density studies and served on many IUCr committees, working parties and commissions. He was a member of the IUCr Executive Committee from 1984 to 1990. He was Organising Chairman of the 1987 IUCr Congress in Perth, and Director of the IUCr Electronic Publishing Committee from that time until last year. Ted's political astuteness was paralleled by his scientific prowess, and he was an invited speaker at many conferences including a congress plenary lecture. In recent years his interests have centred on the use of microcrystals and synchrotron radiation for precise studies and this has involved close collaboration with Japanese scientists and frequent use of the facilities at the Photon Factory at Tsukuba, where, as always, he exploited the experimental possibilities of the latest technology to their utmost. Last year he received a fitting accolade to his achievements in crystallography with his election as Fellow to the Australian Academy of Science.

Ted had a well-developed sense of right and wrong, both scientifically and ethically, and his honest and forthright stances,

which he was always happy to debate, were to be found in venues which ranged from the crystallographic conferences to his local campus and municipal council meetings, the latter of which he served on for 22 years. Amid this multitude of academic, community and sporting activities he maintained the daily regime of cycling to work (some 10 miles) and running each evening for an hour (in bare feet!). Characteristically, he expected of his staff members and students (and often dismayed visitors to the lab!) the same levels of productivity, effort and fitness that he demanded of himself. And thus, it was, perhaps in some sense appropriate, that he set out for his last run with his fellow members of the Perth Marathon Club on that much-too-hot Sunday morning.

Ted was widely respected and had many friends throughout the academic, crystallographic and physics communities. A huge crowd attended his memorial service and interment in Karrakatta Cemetery in Perth. He will be greatly missed at future IUCr conferences, and we share the deep loss felt by Sheila and their children.

Syd Hall & Allan White.

A full obituary will appear in a future issue of Acta Crystallographica Section A.

Ted Maslen

An Appreciation

Logging on my e-mail account on Monday morning I was struck by a short message arrived from many thousands of kilometres away, reporting the tragedy that occurred to Ted Maslen on Sunday the 2nd February. It was a windy, cold day in Tokyo, with snow partly covering the ground from the previous night. But it must have been terribly hot in Western Australia and the road pavement where he fell should have been like an iron plate on fire. How to express the regret, having lost a respectful friend, a tireless researcher, the world-eminent profile in the electron density study and a very good friend of Japanese crystallographers? His life was suddenly interrupted. It was so abrupt without any hint in advance. My memory goes back to 1991-92 when we were working to organise the first Asian crystallographic meeting in Singapore. Ted was nominated for Program chairman and impressed all of us by his outstanding view of the crystallography in the region, his fairness and sincerity, and the ceaseless effort to fill the communication gap. He was really singing loudly old Australian songs, one after another, in the party after the successful conference, although most attendants might have been unaware why. Without doubt Ted was the most well-known Australian crystallographer in the Japanese community since 1989 when he gave a key-note lecture to the annual meeting of the Crystallography Society of Japan in Yokohama. Since 1990 Ted had been a regular visitor to the Photon Factory with his students, to collect high-precision crystallographic data for X-ray imaging. This was made possible by his devotion to upgrade the instrumentation at the BL-14A workstation, which preoccupied him for two years and which is highly appreciated here. This is the station where the most intense synchrotron beam is available from a vertical wiggler. The installed system includes a package allowing remote monitoring, and even data collection, through the network. Ted might have planned to conduct experiments in Japan while sitting in his office at UWA ! All these were part of his collaboration with Prof. Fumiyuki Marumo and Dr. Nobuo Ishizawa, which started in 1990 and was supported by three international grants. This has now been interrupted since his last visit in December 1996. The work was highly successful with 18 co-authored papers published in *Acta Cryst. B* thus far. In his first experiment at the Photon Factory source, Ted discovered tiny twins in his crystal, which imposed no problem at a classical source, and said "the good beam requires good crystals". I came to know that he was a big runner on my first visit to The Crystallography Centre in 1991 when I heard him say "I will run back home": his home was located on the other side of the big Swan river but I did see a bridge nearby. I am not in a position to represent my colleagues in extending a deep sorrow, but Ted, we miss you and shall not forget you.

Hiroo Hashizume

CRYSTAL XX UPDATE

The Twentieth Meeting of the Society of Crystallographers in Australia (Crystal XX) will be held from April 2-5, 1997 Queenstown, Central Otago, New Zealand. The second circular and registration form for this meeting are available on the World Wide Web (<http://www.canterbury.ac.nz/chem/crystal.htm>). The venue will be the Lakeland Hotel, Queenstown. Since Queenstown is a tourist destination there are other motel and hostel accommodation available. Details can be obtained by contacting the conference organising centre (crystal@cont.canterbury.ac.nz) or the *Newsletter* Editor.

At the time of publication of this *Newsletter* there were 63 registrants with another 15 expected. There are currently 71 abstracts in hand with the expected final total to be 75-80. There are 10 sessions, two of which are devoted to Ted Maslen. In the remaining 8 sessions there are 32 talks and 35 posters. About 10 overseas speakers are expected. A slightly revised and updated program schedule has now been posted at the CRYSTAL XX site at the www address given above.

For the web browsers

(1) Crystal XX site:

<http://www.canterbury.ac.nz/chem/crystal.htm>.

(2) IUCr home page: <http://www.iucr.ac.uk>. This also has a pointer to what will be the home page for IUCr XVIII in Glasgow.

(3) Relating to the Australian synchrotron program - <http://pinecone.kek.jp> (Photon Factory, Japan) and <http://www.aps.anl.gov> (Advanced Photon Source, Argonne).

(4) <http://www.nobel.se>. Nobel prizes (for fullerenes).

(5) <http://www.esf.org>. For the report *Scientific prospects for neutron scattering*.

(6) FASTS: <http://bimbo.pharmacol.su.oz.au/fasts/fasthome.html>.

SKETCHES OF CRYSTALLOGRAPHY LABORATORIES

The University of Adelaide

The X-ray crystallographic laboratory at the University of Adelaide is housed in the Department of Chemistry but will soon move to the newly refurbished Johnson Laboratories, overlooking Victoria Drive and the Torrens River (for those who know the city of Adelaide). In a sense, this move will be the culmination of the complete overhaul of the crystallography centre at the University with new personnel, equipment and laboratory being in place.

The crystallographic baton was passed to Edward Tiekink at the University upon the retirements, in relatively close succession, of Stan Kennedy (of solid state chemistry/phase transitions fame) and Michael Snow (chiefly, coordination chemistry, optical activity) during the late 80's and early 90's. A new diffractometer was purchased in 1992 (from University and ARC funds) that replaced the Enraf Nonius CAD4 diffractometer that had been acquired earlier, and jointly, by Michael Snow and Max Taylor. On the arrival of the new diffractometer, the Adelaide share of the CAD4 was given to Max Taylor at the Flinders University of South Australia who, with due attention and care, has restored the diffractometer to excellent working order. Similarly, other items of specialist equipment have been decommissioned or stored away so that the laboratory now comprises primarily a Rigaku AFC6R diffractometer; it should be noted that, where necessary, preliminary photographic work is still conducted, but elsewhere! The diffractometer is fitted with a rotating anode (normally Mo, sometimes Cu) and the large amount of data generated is processed using the teXsan suite of programs installed on an Iris Indigo workstation. Increasingly, low temperature studies are being conducted using the MSC low temperature apparatus; support is being requested for a MSC cryosystem that will negate the need for the continuous replacement of tanks of liquid nitrogen.

Most of the work undertaken is in the broad field of small molecule crystallography, however, things are changing. 'Service/Consultancy' work is conducted for members of the University as well as for colleagues in other Departments around the country, through CRYSTIEKEM operated by *Luminis*, the commercial arm of the University. The major focus of these activities is in the field of organic and metal-organic systems. A significant amount of diffractometer time is also spent on themes of current, personal interest and involve a number of international collaborations. The most significant of these is a systematic investigation of the structural chemistry of main group element compounds. These studies are undertaken with the view of understanding the role of crystal packing effects on molecule structure; *ab initio* geometry optimisations now play an important, adjunct role in this work. More recently, a group of largely Adelaide-based researchers, including Allan Pring of the South Australian Museum, has formed a consortium investigating structural aspects of potential mineral hosts for toxic metals.

In summary, the Adelaide laboratory is modestly equipped but active with well over 100 structures determined *per annum*. It is staffed by an enthusiastic group which includes keen honours and post-graduate students. Some personal recognition for the laboratory was achieved recently, with the appointment of Edward Tiekink, from 1997, to the Editorial Board of *Zeitschrift für Kristallographie*.

Edward Tiekink

Society of Crystallographers in Australia

Office Bearers

COUNCIL

President: C. J. Howard (ANSTO, NSW),

voice: 02-9717-3609, fax: 02-9717-3606,

e-mail: cjh@atom.ansto.gov.au.

Vice-President: J. M. Guss (SU, NSW),

voice: 02-9351-4302,

e-mail: m.guss@biochem.usyd.edu.au.

Secretary: M. A. Spackman (UNE, NSW),

voice: 067-732-722, fax: 067-711-563,

e-mail: mspackma@metz.une.edu.au.

Treasurer: G. Smith (QUT, QLD),

voice: 07-3864-2111, fax:

e-mail: g.smith@qut.edu.au.

Councillors: T. W. Hambley (Univ.of Sydney, NSW),

voice: 02-9351-2830, fax: 02-9351-3329,

e-mail: hambley-t@summer.chem.su.au.

A. Pring (South Aust Museum, SA),

voice: 08-8207-7449, fax: 08-8207-7222,

T. R. Welberry (ANU, ACT).

voice: 06-249-4122, fax: 06-249-0750,

e-mail: welberry@rsc3.anu.edu.au.

Past President: I. E. Grey (CSIRO, VIC),

voice: 03-9647-0211, fax: 03-9646-3223,

e-mail: iang@dmp.csiro.au.

ANCCr Representative: *ex officio*,

J. W. White (ANU, ACT),

voice: 06-249-3578, fax: 06-249-0750,

e-mail: jww@rsc.anu.edu.au.

NOMINATIONS STANDING COMMITTEE

B. M. K. Gatehouse (Monash, VIC), S. W. Wilkins (CSIRO, VIC), S. R. Hall (UWA, WA)

NEWSLETTER EDITOR:

B. W. Skelton (UWA, WA),

voice: 09-380-3481, fax: 09-380-1118,

e-mail: bws@crystal.uwa.edu.au
