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The Royal Children's Hospital Melbourne

RCH alumni newsletter

June 2017

Glencoe, Scotland, by Gigi Williams

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The 2017 RCH Alumni Executive

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From the President

More to a language than vocabulary and grammar

By Kevin Collins

The conflict hinged on a single word: "Gravy."

The place was Heathrow Airport, the time the mid-1970s. The airport had recently hired a group of Indian and Pakistani women to work in its employee cafeteria, and trouble had arisen between them and the British baggage handlers they served.

The baggage handlers complained that the servers were rude, and the servers complained that the baggage handlers were discriminating against them. Neither group knew why the other felt the way it did.

Enter Professor John J. Gumperz, a linguist at the University of California, Berkeley, one of the leading authorities on discourse analysis, which studies not only who says what to whom, but also how it is said and in what context. At the time of the Heathrow incident, he was on sabbatical in England and was called in to help.

Summoned to Heathrow that mid-'70s day, tape recorder in hand, Professor Gumperz discovered that when diners ordered meat, they were asked if they wanted gravy. The English women who had previously worked behind the counter had posed the question with a single word — "Gravy?" — uttered, per cultural convention, with rising intonation.

When the Indian and Pakistani women joined the staff, they too asked the question with a single word. But in keeping with their cultural conventions, they uttered it with falling intonation: "Gravy."

Professor Gumperz pointed out that the rising intonation versus falling intonation made it a very different statement, even though the word was the same. ***So rising intonation sounded like, "Would you like gravy?" And falling intonation sounded like: "This is gravy. Take it or leave it."***

He played the recorded exchanges for diners and staff members. His explanation of the subtle yet powerful difference in intonation, and the cultural meaning it carried, helped the groups achieve a mutual understanding.

NewYork Times, April 2, 2013

The chief executive of the nation's peak Indigenous body, the National Congress of Australia's First Peoples, Geoff Scott, confirms an anecdote from when he, Noel Pearson and other Indigenous leaders Pat Dodson, Megan Davis and Kirsty Parker met Prime Minister Abbott in August to discuss the way forward on constitutional recognition.

After the 30-minute meeting, they were in the office of Abbott's chief of staff, Peta Credlin, when Scott suggested it would have been a good idea if Opposition Leader Bill Shorten had been included in the conversation, given the importance of securing bipartisan support.

When Credlin replied that she decided who was invited to meetings in the prime minister's office, ***Scott turned away****, prompting a rebuke that in other circumstances would have led to a walkout.* ***"Look at me when I'm talking to you!"*** *she demanded*

The Age, December 5, 2015

These two extracts highlight the generally known importance of voice tone and eye contact, and their varying interpretations in different cultures. These are just two examples of the many social aspects of communication, known to linguists as *pragmatics* and succinctly defined by one researcher as the study of how-to-say-what-to-whom-when. Some other examples, and their importance, will now be briefly considered.

The significance of silence in different contexts is familiar to us, both from our personal lives and our professional work. Less familiar, perhaps, is its significance when indigenous Australians come into contact with the law and are being interviewed or interrogated. In response to questions, they have been noted to pause before answering, as if replaying the events of interest in their minds before giving a considered response. However, to many from a Western Anglophone background, this silence may be construed as deviousness or a lack of candour in replying.

Another aspect of social communication affecting indigenous Australians in their dealings with the legal system is what has been referred to as *silencing.* This term does not imply they are prevented from speaking, but rather that they may be forced to conform to Western legal structures by giving an account of the events of interest by responding to a series of yes/no questions from the interrogating police or legal professional – rather than offering a narrative account of events, as would be their natural response.

A final aspect of silence at a micro level relates to the short pauses in the course of turn taking in a normal conversation. Researchers have measured the short time interval between the end of one speaker's utterance and the beginning of their conversation partner's response, sometimes with interesting results. For example, in a conversation between two native French speakers, the pause between turns is significantly shorter than between two native English speakers. Indeed, some have suggested that beginning to "speak over" one's conversation partner in French may be seen as a sign of enthusiastic engagement in the discussion, rather than rudeness, as it may appear to native English speakers.

Another difference in pragmatics between native French and English speakers is examined in an article entitled *Did you have a good weekend? Or why there is no such thing as a simple question in cross-cultural encounters.* This study found that among native French speakers, the question (*Did you have a good weekend?*) is typically asked of a relatively small number of close friends or colleagues and a detailed answer is expected, whereas among Australian speakers, the question is only slightly more than a greeting, which may be asked of a large number of people, and generally elicits quite a brief response. Given these findings, it is easy to see how in cross-cultural conversations, the respondent may be seen as excessively verbose or alternatively, brief to the point of rudeness.

A further point is worth making regarding perceived politeness or rudeness between different cultures. If we hear a request formulated as *I want* or *Give me* rather than *I would like* or *Could I please have,* we would tend to regard the speaker as being impolite. The fact, however, is that in some languages the norm is to make requests in this more direct fashion – not that one language is more "polite" than another, but rather that different cultures have different formulae for performing the speech act of requesting.

Finally, it has been found that while native speakers of a language will readily make allowances for non-native speakers who make errors in grammar or vocabulary, this is less likely to be the case with errors in the social use of language, particularly in individuals with a relatively good command of other aspects of the language. They may be regarded as rude or socially inept. Researchers in this area have given much thought as to how best to evaluate and teach second language pragmatics – an important but elusive aspect of communication.

Why does any of this matter? I have already hinted at the role of a better understanding of this area in securing justice and human rights for indigenous Australians in contact with our legal system. On a larger scale, it is estimated that 6.6 million Australians have been born overseas and while some of these may be from countries where English is the first language, there are likely to be many more where English is a second language or has not been used before arrival in Australia. With population movement associated with refugees and asylum seekers, these numbers are likely to grow. In addition to the formidable task of learning the vocabulary and grammar of English, these new arrivals will need to master the social aspects of communication in Australia – including our love of irony – if they are to function happily in our society. This issue potentially affects people of all levels of academic ability: indeed, alumni members may be familiar with the reported communication difficulties arising between overseas medical graduates and local Australian patients for this very reason.

The situation is likely to become more complicated in the near future if the use or – as some language academics see it – the misuse of formal language testing becomes a precondition for Australian citizenship. But that is a topic for another day!

Footnotes

1. I thank A/Prof Carsten Roever and Dr Ikuko Nakane, of the University of Melbourne, for stimulating my interest in this area.

2. The newspaper extracts cited above have been edited slightly for the sake of brevity.

3. Because this article is intended as light reading, and not as an original scientific contribution, I have not cited the other references used in preparing it. However, I would be happy to provide these on request.

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Alumni Events for 2017

RCH Medical Alumni Program for 2017

Date	Speaker	Topic	Venue
June 20th, 12:30 PM	Prof Mike South	RCH implements the most advanced Electronic Medical Record in Australasia	RCHF
Tuesday July 25th, 10:30 AM	Dr James Keipert	Changes in attitudes and ethical behaviour	RCHF
Wednesday Sept 13th, 12:30PM	Prof Shitij Kapur, Dean of the Faculty of Medicine, Dentistry and Health Sciences, The University of Melbourne	The Vernon Collins Oration	ELLT
Friday, October 27th, 12:45PM	A/Prof Megan Munsie	Cashing in on hope: the big business of selling stem cells	RCHF
Tuesday Nov 14th, 6PM	ANNUAL GENERAL MEETING and END OF YEAR GALA DINNER. Speaker: Dr Peter Yule, historian.		Kew Golf Club

"Flinders Ranges from the west" by Kester Brown

“An accidental paediatric intensivist”

by Alan Duncan AM

I was a member of staff at the Royal Children’s Hospital from late 1974 until the end of 1986. Some may remember me and I trust that this rambling story is not too self-indulgent and does not conflict with more reliable historical accounts of the period.

Early days

As a medical student in Perth in the late 60s, my ENT attachment had been under a consultant with the same surname as one of Australia’s media moguls. This man was very successful; he only “did ears”, only worked in the mornings and sailed a very large yacht in the afternoons. I decided that would be the life for me.

However, the story really starts at Sir Charles Gairdner Hospital where I undertook my internship in 1970. My first term was in Respiratory Medicine and my Medical Registrar was one Geoffrey Charles Mullins. Geoff was known as the Resident’s Resident; his notes from the Admission Centre were so perfect that the Resident was virtually redundant! We became good friends but little was I to know that this would become a lifelong friendship and how our paths would be entwined.

I had spent a student elective in Darwin at the end of 1968 and the lure of the Top End drew me back for a planned second year of Resident rotations. My first term was anaesthesia under a boss (the late JC) who had threatened to have me thrown out of the Territory (for reasons that should remain unexplained) during that elective. As it transpired, one of the Anaesthetic Registrars resigned unexpectedly 3 months into the year. Apparently by this time I had shown some aptitude in both anaesthesia and intensive care and, out of necessity, JC had me elevated to Registrar. Although I delivered over 1000 anaesthetics in that year, it was the intensive care work that fascinated me. The year provided remarkable experience managing severe multi-trauma, late presenting severe sepsis and some critically ill, often malnourished, children. Thrown in at the deep end in more ways than one. I recall one occasion when a second-year Resident from NZ was forced to undertake an emergency Caesarean section late at night; the obstetric consultant was inebriated and could not be summonsed.

I provided the anaesthesia for similar reasons (Darwin was a wild town pre-cyclone) and the outcome was a healthy infant and beaming mother.

As an aside, I became skilled in supraclavicular catheterisation of the subclavian vein during this year. This technique had been recently described by a Dr David Yoffa, whilst a Registrar at the Royal Melbourne Hospital. Interestingly, David went on to become a urologist in Dandenong and we later played 10 years of cricket together for the Melbourne Cricket Club “A”s. What a small world. I became very comfortable with the technique and ultimately used it in infants below 1 kilogram. I was also tossed into the shallow end of the Darwin hospital swimming pool head first and suffered multiple but fortunately stable spinal fractures!

I returned to “Charlies” for my third year as an Anaesthetic Registrar but spent most of my time as Registrar in the Intensive Care Unit. By now I was destined to forgo ENT and the large yacht and head down the path of anaesthesia and intensive care.

London

I had a desire to travel rather than pursue my training in Australia. I headed to London, resided at Nuffield College, studied for and successfully completed the Primary Examination in 1973. I managed to obtain a locum and then SR position in anaesthesia and intensive care at Northwick Park Hospital in Harrow. This hospital was state of the art having been opened in 1971; it was linked to the Clinical Research Centre (CRC) for the Medical Research Council, an institution housing remarkable people not least including a Nobel Laureate, Sir Peter Medawar, Martin Wright, inventor of Wright’s respirometer, Wright’s peak flow meter, a neonatal apnoea monitor and the Alcotest breathalyser, and many other devices. Anaesthesia research at the time was largely focussed on investigating mechanisms of anaesthesia.

I worked with David White, a wonderful consultant with an incredibly enquiring mind.
His 1970 publication in Nature reported for the first time a reversible interaction between anaesthetics and a protein – in this case the bacterial enzyme luciferase. The light of luminous bacteria reversibly faded when they were exposed to anaesthetics. This seminal discovery changed the face of research into the mechanism of anaesthesia, and transferred the target for their action from lipids to proteins.

The aerodynamics of the boomerang had been recently published in New Scientist and David wished to test the veracity of the publication. We constructed a model in the laboratories of the CRC, meticulously following the article that detailed profiles of the leading and trailing airfoils. Unfortunately, the test flights conducted in Northwick Park were a monumental failure. The project went into abeyance following a trip to Piccadilly Circus where we purchased a cheap tourist boomerang which flew perfectly! The message is not to believe everything you read in the scientific literature.

I spent about 18 months at Northwick Park Hospital (NPH), my days predominantly spent working in ICU although I undertook out of hours work in general and obstetric anaesthesia. I found myself anaesthetising sick infants with little or no experience or supervision, having to look up dosages and record them on my hand prior to venturing in to the OT. During this time, I successfully completed the FFARCS examination. My Professor, John Nunn, said "Australians always pass the exam, they usually take out the prize". How true. Rob Eyres, who I did not know at the time, was at the same sitting and took out the Gold medal! I tell people that I came second. As I learnt later, Rob had been a contemporary of Mullins at medical school in Melbourne!

Rotterdam

By this time and as a consequence of lack of training, I had developed a fear of infant anaesthesia and I had no experience in cardiac anaesthesia. Harold Davenport was a consultant at NPH and a highly respected paediatric anaesthetist. He arranged a junior consultant post for me at Thorax Centrum, Academic Ziekenhuis in Rotterdam undertaking paediatric and adult cardiac anaesthesia and intensive care. Superb infant cardiac surgery was being performed including the arterial switch for transposition of the great arteries. This was arguably the most technologically advanced centre in Europe. Prototypes of Siemens ventilators and lung mechanic modules, computerised monitoring of expired gases from every ventilator, the likes of which we did not see in Australia, were on display. I spent 6 months in Rotterdam and the seeds for my future were well and truly sowed.

Return to Melbourne

My girlfriend, later to become my wife, needed to return home to Melbourne from The Netherlands due to family illness and I decided to try and get a job back in Melbourne. I recall that I wrote to Dr Kester Brown, c/o St Vincent's Hospital or perhaps it was the hospital Manager, Mr Murray Clarke – showing how much I knew about Melbourne! The application somehow reached Kester and he noted that I had worked at Sir Charles Gairdner Hospital. He asked Mullins, by now a consultant in anaesthesia, whether he remembered me and whether I was any good. I had had no contact with Geoff after Perth but he must have said something positive. Rob Eyres and I were appointed Registrars and I commenced late 1974. We both sat the FFARACS examination the following year and I like to believe that I came second again, but not to Rob on this occasion.

So started a very important phase of my career. I was appointed to the intensive care unit initially as a Registrar. Geoff Barker had become the inaugural Director following the death of John Stocks. Mullins was also on staff! Within a year, Geoff Barker had returned to Toronto as Director, PICU at the Hospital for Sick Children. Geoff Mullins became Director and Noel Hosking and I were appointed as Fellows in Intensive Care.

The old firm of Mullins and Duncan was back together.

I can't overstate the influence that the late John Stocks (who I never met) had on my career. His article entitled "The management of respiratory failure in infancy" is as relevant today as it was in 1973.1 The principles espoused by Stocks and Ian McDonald in their publication entitled "Prolonged nasotracheal intubation" still underpin quality respiratory care in infants and children.2 The standards that Stocks had established were reflected in all of the consultants working in anaesthesia and intensive care at the time, and were ingrained into the trainees.

My career progressed from Fellow, to Associate Specialist, Deputy Director, Acting Director (while Geoff undertook a sabbatical in Toronto in1979) and ultimately Director when Geoff followed Barker to Toronto. A new Intensive Care unit was built and occupied in 1978. These were interesting times, made all the more memorable by the remarkable people with whom I had the honour of working. It is hard to know where to start and where to finish.

In addition to working in intensive care, I maintained my interest and involvement in cardiac anaesthesia, and spent a day a week in the cardiac theatre for the whole of my time at RCH. At this point I wish to pay tribute to Stewart Bath, cardiac anaesthetist, from whom I learnt a great deal in the early days.

Cardiac surgery went through challenging times at RCH in the 1970s and I don't propose to enlarge on that period. The major transformation in congenital heart surgery occurred when the late Mr D'Arcy Sutherland, then President of the RACS and recently retired from Adelaide, was appointed as head of cardiac surgery at RCH. D'Arcy was a superb surgeon and a true gentleman. At this late stage of his career, he embarked on new techniques and achieved outstanding results. However, arguably D'Arcy's most important achievement was the recruitment of Mr Roger Mee who was to become one of the world's best and most innovative paediatric cardiac surgeons. The improvement in outcomes during this period was staggering. The mortality of infants undergoing open heart surgery in the first 6 months of life fell almost immediately from over 50% to less than 10%. This improvement arose from many factors, but none as critical as the superb clinical judgement and pure precision of surgery. Roger was demanding of the team around him, anaesthetists, perfusionists, nursing staff, cardiologists and the intensive care unit. We in intensive care were made to lift our game to meet these expectations and the spin off to other patients in the unit was noticeable. D'Arcy retired from RCH and Roger was joined by Mr Bill Brawn, who under Roger's guidance, also went on to become one of the world's best. The international reputation that the Victorian Paediatric Congenital Heart Unit gained during this period has been sustained to this day.

Key influences

I wish to dwell briefly on Kester Brown. Kester was very adept determining what was in the best interests of others around him; and I mention that in the nicest way. He had been on the Editorial Board of “Anaesthesia and Intensive Care” from its origin in 1972. In the 1980s, he recommended that I join the Editorial Board to manage the intensive Care component. As it transpired, I then spent over 20 years on the Board, as Intensive Care Editor throughout, and the final 7 years as Chief Editor!

Venom research

Jim Tibballs, Struan Sutherland & Alan Duncan
1981

In another aside, in 1979, Kester was approached by the late Struan Sutherland, Australia’s foremost venomologist, to explore the possibility of cooperating on venom research in relation to funnel web spider envenomation in the animal laboratory at RCH.

This was an emotional issue in NSW at the time as there had been a number of deaths including that of a child and there had been no success in developing an antivenom. Kester suggested that I would be suited to this project and I asked Jim Tibballs to join me. The program commenced in 1980 and together we further elucidated the physiological effects of funnel web spider venom in monkeys and demonstrated that the pressure immobilisation technique of first aid (proven for snake envenomation) was not only effective but in fact therapeutic. We assumed that atraxotoxin, the active component of Sydney funnel web spider venom and a small molecule (MW 6000), was either broken down or bound in the tissues. Monkeys receiving first aid treatment after being given lethal (LD100) doses of atraxotoxin avoided the syndrome and survived.

Struan was an eccentric but delightful person with whom to work. He noted the similarity between the provision of intensive care for an envenomed 3 Kg monkey and that of a critically ill newborn infant and struggled to understand why

Jim and I baulked at nursing a monkey in our ICU to provide a longer period of monitoring and support. As a compromise, Jim personally provided that 24/7 intensive care in the animal lab on at least one occasion. Shortly thereafter, Struan and his staff were successful in raising an antivenom against the Sydney funnel web spider venom in rabbits, and together we were able to demonstrate its efficacy in monkeys. The antivenom was approved for use in humans shortly thereafter and is highly effective. Jim went on to have a stellar career in venom research and publication.

Establishing PETS

When Geoff Mullins was on sabbatical leave in Toronto, it was Peter Phelan and Max Kent who identified the challenges of managing critically ill and injured children, in particular those outside the metropolitan area, but also in the secondary hospitals. At their instigation, I set up the Paediatric Emergency Transport Service (PETS) which commenced in 1979.3 In the initial years, the vast majority of retrievals were conducted by the ICU Consultants; over 40% were due to acute upper respiratory obstruction from croup or epiglottitis, most requiring general anaesthesia to facilitate intubation and hence dictating the skills required for the transport. Of course both of these conditions, or at least the interventions required, have virtually vanished due to the early use of steroids in croup and H. influenzae immunisation in the case of epiglottitis. I hesitate to note that this history of PETS may have been lost when the thirty-year anniversary was held.

My colleagues

I wish to recognise my colleagues in the ICU from whom I gained so much. I have mentioned Jim Tibballs earlier who keeps on like an Eveready battery, beavering away at diverse interests one after another; Frank Shann who has been able to combine a distinguished career in academic and clinical work in the PICU with a tireless contribution to important research in the developing world; Rob Henning whose questioning mind and steely resolve are most enviable; and Warwick Butt whose energy in his multiple roles is infectious. Space does not allow me to the many other outstanding staff that I encountered both within the ICU and the hospital at large.

Regrets

Of course there are regrets and one warrants special mention. For historical reasons, all neonates requiring respiratory support or invasive monitoring were admitted or transferred to the ICU under joint care. This was not unreasonable in the early days given the contributions that Stocks and others had made to the field. However, it is my belief that this practice continued for too long and became demoralising to both the Neonatal Consultants and nursing

ROYAL CHILDREN'S HOSPITAL, MELBOURNE, INTENSIVE CARE UNIT MEDICAL STAFF 1986

BACK ROW (L-R): Michael Harari, Rob Eyres, David Ravine, Bruce McLeod, Ian Barker, Warwick Butt, Pauline Cullen, Nin-Ming Leung

FRONT ROW (L-R): Jim Tibballs (Deputy Director), Alan Duncan (Director), Frank Shann, Rob Henning

INSERTS: (Bottom L) Craig Walker, (Top L) Carlos Riquelme, (Bottom R) Nelson Tsoi, (Top R) Victor Perez

ABSENT: Vivien Hollow, Bob Hutchinson, Steve Robinson

staff of 10W. I wish to recognise the manner in which the late Geoff Gillam, Neil Campbell, Peter Loughnan and Peter McDougall conducted themselves during this frustrating period, their sole focus being to achieve the best outcomes for the newborn and their families.

Recreation

Finally, my last few years living in Melbourne were spent in Essendon, a stab kick from the centre of Windy Hill football ground and in a marvellous house with a tennis court and plenty of parking. Amazingly I suddenly had a plethora of friends including Alex Auldist, Keith Stokes, Warwick Butt, and others who barracked for the Bombers and would happen to drop by on a Saturday afternoon. Alex and Keith also happened to be keen tennis players!

Although completely unplanned, RCH became an important and productive period of my life; although I didn't end up with the lifestyle of morning work and afternoon sailing, I've never regretted what I chose to do instead for a minute. Life in Melbourne treated me well. Ian McDonald arranged for me to play cricket with the Melbourne Cricket Club "A"s and nominated me for the MCC. D'Arcy Sutherland arranged membership of the Royal Melbourne Golf Club. It doesn't get much better. Serendipitously, paediatric intensive care combined with cardiac anaesthesia had become a lifelong career.

Back to Perth

In early 1986, I was approached by Princess Margaret Hospital (PMH) which had decided to develop a purpose built PICU and, for the first time, appoint permanent specialist staff including a Director. I had long wished to return to my home state and this was the opportunity. I would be the last one to question their motives, but I am most grateful for the enthusiastic support provided by Peter Phelan and Max Kent in my successful appointment! I left RCH in November 1986 to start another phase of my career and life, but that is another story altogether……

PS: In 1991, Geoff Mullins returned to Perth as Director of Anaesthesia at PMH and "the circle of life continued", hakuna matata.

1. Stocks JG. The management of respiratory failure in infancy. Anaesth Intens Care 1973;6:486-506.
2. McDonald IH, Stocks JG. Prolonged nasotracheal intubation. Br J Anaesth 1965;37:161-167.
3. Duncan AW, Mullins GC, Kent M, Phelan PD. A paediatric emergency transport service. One year's experience. Med J Aust 1981;2:673-6

Nephrology to Geology

By Colin Jones

Approaching retirement, I was thinking of working in a rural area with vague ideas of animal husbandry and plant propagation in the Merrijig area of northeast Victoria. My wife and I took a holiday to explore the west coast of Tasmania. We fell in love with the countryside and found an advertisement for what seemed a vastly underpriced property on a mountainside in a native rain forest bordering a lake. We put in an offer and were told within 2 hours we had bought the property. Giving up on alpine Victoria, we made plans to move to Tasmania. The property we had bought was remote, 20 km from Cradle Mountain as the crow flies, and wet, to the extent of 2 to 3 meters of rain per year. After putting in an access road and securing the help of Hydro Tasmania to put in power poles we built our home.

During this development, a mining company executive and geologist informed us about exploration they were doing in the area and offered a share of profits if we allowed mining on our land. We learned our property was atop the Dalcoath granite, a perhaps 10 km long 2 km wide east-west body that outcropped at Lake Cethana, and that was about 400 meters deep to the surface of our property. It constituted part of the northern Mt Read volcanics, a fertile area for lead, zinc, copper, silver and gold mining that hosted the Mt Lyle, Rosebery, Zeehan, Mt Bischoff, Hellyer and other mines. We had noted that within 2 km of our property there were a tin tungsten mine (the Shepherd-Murphy mine which closed in 1968), an alluvial gold mine where nuggets up to 2 cm were still being occasionally found (Bell Mountain), the Fletcher's adit gold mine and the Stormont bismuth-gold mine which both closed with the onset of World War I. A prospective skarn at Ti Tree Creek was on our property. The exploration project eventually led to a small and unprofitable redevelopment of the Stormont mine as a small open cut project. We were not involved.

My friend David Francis, previously RCH renal transplant surgeon, had retired some years earlier and was studying poetry with great success. I decided to study a unit in geology at University of Tasmania in Hobart. I started midyear having enrolled in a unit examining the geological history of the Earth, from 4.567 billion years ago. The isotopic dating of chondritic meteorites had converged on that convenient to remember time, which is regarded as the birthday of our solar system and the Earth. This was an eye-opening event for me which at times seemed like an outlandish science fiction tale. Three years later I have enrolled in an Honors year developing a thesis on magmatic textures at Freycinet Peninsula. Starting has proved difficult. On a preliminary reconnaissance survey, I slipped off a rock ledge into the sea while taking the perfect picture of a contact between two different granites. I was thankful I had not injured myself even though I lost an I-pad and phone and wet the contents of my knapsack. During the subsequent rock collecting expedition for this work, a sliding ledge of granite impacted my foot and the resulting compound fracture has seen me with foot elevation for some months and writing this piece in response to a suggestion from Garry Warne.

The experience of being 40 years older than nearly all of my fellow students and 20 years older than my lecturers has been humbling. We have spent weeks at a time in the field in quite remote locations in multiple people per room accommodation where the only food you can consume is what you can carry in with you. A lot of the field work is done in pairs or small groups. I am always amazed at their acceptance of me and grateful for their camaraderie on those trips. I find myself good at mapping, geochemistry and mineralogy, but the ease with which they can learn new computer programs and adapt them to geophysical applications is beyond me. In a typical computer based practical I will have just worked out how to use the program as they complete their work and walk out the door! They are not all fit, nor all strong, but their agility in rough terrain is enviable. The normal field gear includes a mapping board, compass-clinometer, a two-way radio, a GPS and a backpack. Add another 20kg if a magnetic or radiometric study is being performed. This is where the younger students shine. They are able to neatly and efficiently cross the terrain with natural spring while I approach a fallen tree, rock, fence or pipeline and evaluate whether it is a climb-over, -under or -through job, and after crossing the obstacle, I pick up the pencils I have dropped in the process. One advantage I have had is to be in a position to study without the concerns of a part time job and to have the time to be able to chase down the answers to questions arising from lectures and practicals. The four-hour trip from Hobart to home finds me listening to lecture recordings, unless the AFL football is on the radio.

I had imagined that geology would be a male dominated occupation. This is probably the case in industry but not in the student body or academia in general.

The optical microscopy of silicate rocks is a delight that continues to enthrall me. Thin sections are cut at 30 microns (by comparison, renal biopsy sections are cut at 2-4 microns). The majority of the minerals (quartz, feldspar, plagioclase, biotite, garnet etc.) are transparent when viewed under polarized light and have natural colors depending on the proportion of different elements making up the crystalline structures. Viewing under cross-polarized light enables further differentiation of the minerals. The unstrained appearances of the upper mantle rocks with blue-green olivines, yellowish to brown pyroxenes and clear plagioclase are reminiscent of the finest lead-lined stained glass windows. The accompanying photographs show a Freycinet granite (not one of the pink ones for which the Peninsula is renowned) and some photomicrographs of a section from the rock.

One of the fascinating findings in the structural analysis of rocks is that microscopic features at the micron level reflect macroscopic features that may be displayed at the kilometer scale. Thus, the deformation regime undergone by a terrane

is reflected quantitatively in the microscopic sec- tions of and muddy bed of a river is eventually buried, compacted and consolidated to form a sedimentary rock (a sandstone or a mudstone). The region is tectonically deformed, say by continent-continent collision or extension or compression associated with subduction of oceanic crust beneath continental crust (as is happening on the east coast of New Zealand at the moment). This deformation is recorded by the changes in the position and direction that the former river bed, now rock, undergoes and this is quantitatively recorded in the microscopic appearances of the rock as well. Unwinding these events by relatively simple stereonet analysis enables the deduction of such things as the direction of river currents in previous eras of time or the reconstruction of the movements of continents or formation of mountain ranges.

The Geology School at UTAS is associated with an Australian Research Council Centre of Excellence in Ore Deposits with the acronym CODES. Consequently, there is a great deal of research into ore deposits and ore deposit models. The equipment used at the School ranges from diamond tipped rock saws, to crushing devices to ion or electron microprobe or laser ablation apparatus, all of the latter hooked up to mass spectrometers. Exact mineral identification can be performed by X-ray diffraction and scanning electron microscopy. There is a prominent environmental geology section where work starts on how to close mines before they are developed and estimating the amount of acid mine drainage that may be produced in each instance. Instances like the Samarco Brazilian disaster are at the forefront of most mining companies planning yet the occurrence of tailing dam collapses is frequent for such major catastrophes. Industry provides substantial funding from consul- tations, isotopic dating, non-radioactive isotope analysis, mineral analysis and thin section analysis. For example, whole rock element analysis is $40/sample, isotopes range from $50 to several hundred dollars per sample, thin section preparation from $21 per sample. In addition, the analysis of geo- physical exploration through modalities of gravity, magnetic, electromagnetic, seismic and radiometric studies and the adaption of these modalities to both drone and down drill hole applications requires specific and labor intensive expertise.

Although there is not much overlap between medicine and geology, one area that is similar is the requirement to learn a new language. From my point of view, it has been worth the effort. Although I am still unsure as to how far I will take this new knowledge, I look forward to getting back to my sample collection albeit wary of any overhanging granite shelves. A simple walk through a rocky outcrop has more appeal that it once did and I have to force my gaze from the roadside cutting as I drive through. However, I would still not be happy giving permission for the company to drill on my land!

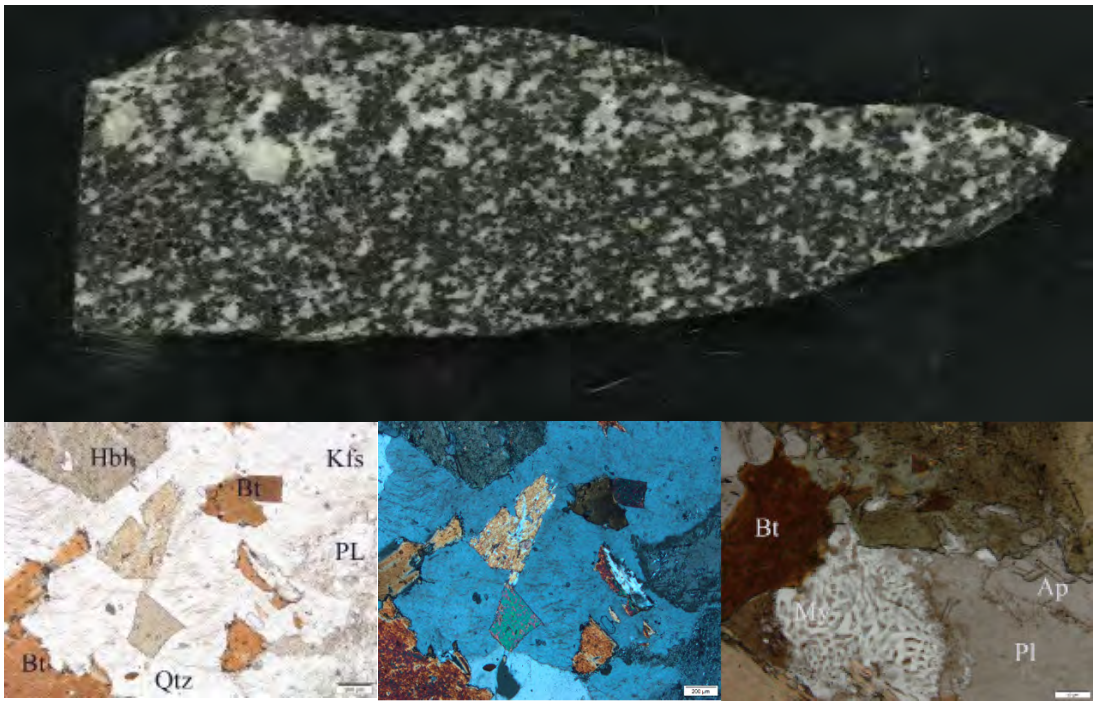

Figure 1. The top photo shows a piece of granite 10 cm long from Bluestone Bay, Freycinet Peninsula. Crystals of feldspar (white), horneblende and biotite (dark) can be identified in hand specimen. In the upper part of the rock the texture shows banding of the dark minerals and white minerals which is not present in the lower part of the rock.The lower left photomicrograph shows minerals of hornblende (Hbl), K-feldspar(Kfs), plagioclase(PL), biotite (Bt) and quartz (Qtz) in polarised light. The middle lower photomicrograph is the same field under crossed polarised light. The photograph to the lower right shows an area of wormlike quartz in plagioclase called myrmekite (Mr) which indicates the minerals in the rock are not in equilibrium- it has been subject to some chemical or physical agent causing change in the mineral structure- albeit any change at surface temperature and pressure will be very slow. Apatite (Ap) crystals are present in the plagioclase. The order of crystallization of minerals from magma can be determined from the shapes of the minerals and whether one is inside another. This in turn can be used to give an idea of the conditions (temperature, pressure, fluid concentrations) at the time of crystallisation. Further refinement of these conclusions can be made by examination of the contents of fluid and melt inclusions which retain the exact conditions of formation of the minerals.

MUBARAKAH

By Geoff Mullins

She stood out amongst all the people in western dress in the busy grounds of the Princess Margaret Hospital in Perth. Dressed in a long flowing black gown and the Muslim hijab hiding all but her face she slowly pushed a large pram around the open courtyard, pausing to carefully study each signpost giving directions to the various departments within the hospital. She was obviously lost.

She glanced around nervously as I passed, but perhaps seeing the stethoscope around my neck gave her courage and she turned towards me and stopped. She handed me a piece of paper with her hospital appointment details and with eyes lowered asked me in a soft accented voice for directions to the Birth Defects Unit. In the pram were two children of the same age dressed in light coloured clothes, both wearing the hijab and both having odd facial features They were far too big to be in a pram and looking at their facial features I could see why this mother was attending the hospital

I explained to her she needed to go to the Genetic Services Department and began to describe the circuitous route to this department on the fifth floor of the main hospital building. From her expression, I could see that my directions were confusing for her. She had a strong unlined attractive and intelligent face but there was a world-weary look of a much older person. (Fig.1)

While I was speaking, the children were babbling to each other but one began to cry when the other threw a toy from the pram. The mother spoke to the child in a soft calm voice, retrieved the toy and then apologised to me, as a schoolchild might apologize for showing inattention to me.

Watching her fuss over the crying child and knowing the labyrinth of corridors she would need to negotiate I offered to walk with her and show her the way. She hesitated at first then nodded, turned the pram and walked just behind me as I led the way. I deliberately slowed my pace to walk beside her but was unsure as to whether she would prefer to walk behind me or beside me. Walking beside her as we approached the main building I tried to engage her in conversation. Hesitating once again but then with eyes lowered she told me in her quiet voice she was from Iraq and her children were twins born in Baghdad where there was much fighting. As we slowly made our way through the broad hospital corridors towards the lifts she continued to talk. She told me her twins were born with something wrong with their chromosomes and needed much care. She and her husband had come to Australia as refugees hoping that they would find help for their children and a safe place in which to live. She looked up at me momentarily as we waited for the lift and again I could again see the world-weary look, but also an inner strength, in her dark penetrating eyes. I was moved by the suffering that she and her family must have been through to finally arrive in Australia.

Inside the crowded lift, she kept her eyes lowered but appeared very conscious of the inquisitive stares being directed at both her and her children. Exiting the lift on the fifth floor we negotiated the wide pram through the narrow doorway to the Genetic Services and then on to the reception desk. The receptionist asked her name. She replied “Mubarakah” and was then given some forms to complete. She thanked me as I turned to leave. At the door I turned back and, perhaps out of habit, waved and called out good luck.

Walking back through the hospital it occurred to me that this was the first time I had walked and talked with a Muslim woman in full traditional dress. This was despite having working for a brief time in Saudi Arabia caring for children after major cardiac surgery in a large paediatric intensive care unit.

The care of the children in the Saudi intensive care was excellent but it was uncommon for mothers to be present. If they were present, they would be always fully covered in the face-concealing burqa. There was of course the language barrier but I soon became aware that I should not attempt to communicate with the mothers. This communication would be done by the female nurses after we doctors had discussed progress, treatment plans, etc. and had moved on. It was common for these children to stay for less than 48 hours in the intensive care unit and then be transferred to private rooms on another floor of the hospital.

We routinely conducted follow-up ward rounds of these post-operative children. The ward round entourage was large, consisting of a surgeon, an intensive care specialist, several trainee specialists, a social worker and the head ward nurse. The round followed the same routine each day. The head nurse would knock on the closed door of the child’s room. We would usually hear some rustling, wait perhaps for a minute and then enter the room. In the spacious room would be the recovering child, standing or lying in a cot and usually attached to a monitor. A nurse would give a progress report, charts

were inspected, the child examined, management decisions made and we would then leave. On the other side of the room behind us would be a low bed and silently seated on the bed in a squatting position would be the child's mother, who was always dressed in a long black gown with her face concealed behind a black burqa. (Fig 2)

The presence of the mother was never acknowledged during the review of the child. We would then move to the next room to knock on the door and wait presumably for the mother to cover up and move to her bed. The mothers would be given information from the rounds by the bedside nurses. This was so different from my practice in Australia where parents and especially mothers were almost always present, were often visibly distressed and certainly expected to be fully informed by medical staff. Although it concerned me that the mothers were ignored by the medical team, I adapted to this routine and like the others, I too completely ignored the silent tent-like figure behind us in the room. However, I knew from feedback from nursing staff who were mostly Westerners and non-Muslim, the mothers were inquisitive and cared passionately about their children but were also aware of and accepting of the religious obligations that dictated almost all aspects of their lives.

I discussed this lack of communication with a palliative care physician I had befriended in the hospital. He was a New Zealander but had worked in Saudi Arabia for many years. He was less affected by these cultural differences because much of his practice was done through home visits where the atmosphere was much more relaxed. Through this communication with patients and families, albeit often with the aid of an interpreter, he had developed a great respect for Saudi Arabian families. Sensing my frustration at never being permitted to communicate with Saudi Arabians apart from medical staff, he offered me the opportunity to accompany him on his home visits one day.

A day was arranged but on the morning of the visits he

called to tell me I would not be able to accompany him because he had overlooked the transport issues involved. He travelled to the patient's homes in a hospital car driven by a male driver/interpreter. He sat beside the driver and a palliative care nurse (always a female) sat in the back seat. For me to come on the visits I would have to sit in the back seat with the nurse which was unacceptable in Saudi Arabia. He explained that an adult male could only sit beside a woman in a car if they were married or closely related. Thus I left Saudi Arabia having virtually no communication with my patients' mothers or indeed with any Saudi women, but was moved by their stoicism and devotion to their religion.

So, on this day at the Children's Hospital in Australia it was such an unexpected surprise and pleasure to be approached, if at first tentatively, by a Muslim woman asking me for directions and then shyly walking beside me and telling me something of her life. To hear a little of her story and imagining the ordeals her and her husband must have faced in leaving their homeland as refugees with two disabled children filled me with awe and respect.

Her name, Mubarakah, translated into English means "blessed". I hope she is blessed with good luck in her new country and that Australia is kind, supportive and safe for her family.

The U3A in Ballarat

By Eileen Anderson

U3A means University of the Third Age and is open to all over 55 years of age. The U3A in Ballarat is flourishing! There are 883 members and 70 tutors. All the tutors are voluntary of course and a lot of them are former teachers.

I do Literature, but there are 104 classes from all the major languages and Latin, to silversmithing and bush walking. We study a book a month with a different tutor and meet twice a month. We study older and modern day books and authors such as Trollope, Hannah Kent, Steve Carroll and Vera Britain and dissect and discuss the book.

There are about 25 in our class and it is different from a book club. Book clubs vary a lot. Some are very chatty and don't have a leader and some members don't even read the book! Others have a leader who leads the discussion - the literature class is usually more serious and we usually have books which are considered literature, though there is an ongoing discussion about what is literature. Book clubs sometimes have lighter books although you can usually choose your books. They are run by the CAE or by the local library Both of these have multiple copies of books which they send out. Some groups buy their own books. I get my book for literature from the library.

The tutor usually starts by telling us about the author and then asks each person what we thought about the book We often get very varied responses from loving the book to hating it! The tutor usually leads us in discussion about each character in the book, we look at the writing style and if there is a message or purpose in the book. The whole session lasts 11/2 hours. We don't have to speak and don't do any written work. Very pleasant!

We used to meet in an old school which had been beautifully done up, had airy rooms, was very light and had a Men's Shed and a garden. We shared it with the Multi-cultural group and another group. It is now in receivership so we are meeting in all sorts of different places while we negotiate for a new building. We badly need a permanent home.

As well as reading the books for literature I read other books - I have a lady from the Home Library Service, run by the City Library, who brings me books of my choosing every fortnight. We have similar tastes in books and she also keeps me up to date with what is going on around the town so it is very good.

At the moment, I am very keen on India and the Raj. I have read Passage to India by Forster but I like the books of M.M. Kaye very much. She was born and brought up India and never lost her love for it. Her father was a Government Official and whenever they went somewhere they stayed with Lord and Lady something or with a Maharajah. She wrote an autobiography in three volumes, novels and detective stories. Do read the detective stories but don't read Death in Zanzibar or death in any other place as she writes better novels than detective stories.

I enjoy the U3A very much and can recommend it to all of advancing years.

THE " LUNA-TICS" AT KEW

By Hugo Gold

The Lunar Society, sometimes referred to as "luna-tics", were the subject of a fascinating illustrated presentation by Dr Jim Wilkinson at the Alumni annual dinner.

Headed by Dr Erasmus Darwin, grandfather of Charles Darwin, Matthew Boulton, Birmingham Manufacturer and Joseph Priestley, the discoverer of oxygen, the group included many of the greatest intellectuals, philosophers, scientists and physicians of the late 18th century in a loose association in and around Birmingham.

Occasional attendees at their meetings included Benjamin Franklin and Joseph Banks. Other members included James Watt, Josiah Wedgwood and Dr William Withering.

It was the last of these who had attracted Jim's interest in the society, as a biography of Withering had been written by his father.

Jim's talk was the highlight of a most successful and enjoyable evening, marked by an excellent dinner, great company and an outstanding venue.

View Video recording of presentation:

Fittingly, Professor Christine Kilpatrick, the RCH outgoing CEO, was our special guest.
We are especially grateful to Karin Tiedemann who once again demonstrated skill and good taste in organising the event.

From ED at RCH to Luang Prabang in Lao

By Dr Simon Young OAM

Walking into the Royal Children's Hospital in 1996 as the new "Director of Emergency" but never having studied or worked in its hallowed halls before was indeed a daunting experience. Names of well-known RCH consultants revered and feared throughout Victoria that I would need to deal with loomed large in my mind as I contemplated how to approach creating a modern paediatric emergency department within its walls. I am sure that at that time I would not have imagined I would spend over 20 years on this task or that the final result would be so immensely satisfying.

Maybe some remember these early days when all "sick" children bypassed the ED and went straight to ICU, when the assessment and treatment of major trauma was chaotic and not driven by a team leader or when "brutaine" was our favoured anaesthetic. Looking around in 1996 there was so much to do but a fertile ground and unbridled opportunity were apparent. This was indeed a time of departmental autonomy, devolved budgets and Department Heads having real power to effect change. With a clear vision, a creative department accountant and the judicious use of smoke and mirrors one could achieve a lot: and I believe we did just that. The clinical changes in our Emergency Department over 20 years have been immense and in many ways they are to me the most satisfying achievements.

Helping to design two new Emergency Departments and one new hospital, starting a paediatric emergency training program, growing a group of paediatric emergency specialists, introducing a GP clinic, training nurse practitioners, working with the early RCH guidelines, starting the Advanced Paediatric Life Support (APLS) course, and of course running a department and taking a sizable clinical load all added up to a busy few years and also a realisation that this was indeed a job with no end. But of course, there has to be an end, so when does one start thinking that the job you set out to do is done and it is time to move on? Is it when the next generation of consultants you have nurtured are cleverer and better trained than you with smarter ideas and an air of confidence to get things done? Or is it when your mind starts contemplating new challenges and concludes that if you change now you have one good job left in you before you toss in the towel. For me it was a combination of both these things, however with the job done: what next?

There must have been some subconscious brain activity going on because for the previous 4 years I had been studying a Masters in Public Health and Tropical Medicine. Of dubious value to my work at the RCH (not that I said that to the sabbatical committee when asking successfully for time to knock off a few subjects) putting time and effort into this must have been a subliminal direction to my next job.

Even before this, having been involved with the RCH International (RCHI) programs in Hanoi and the APLS programs in Vietnam, Cambodia, Sri Lanka and Myanmar, the writing may well have been on the wall that I would end up in South East Asia somewhere. During these overseas programs, I had often worked with Chris, regional paediatrician and medical educator extraordinaire. Together since 2012 we had mused about the possibility of a radical change to our lives. After all, with the realisation that with your youngest child is over 20 and no longer really needing you around, and most importantly, that your partner is up for a change too, the question really is: why not?

If leaving the RCH was hard, starting as the Executive Director of Lao Friends Hospital for Children in Luang Prabang a few days later was much harder. The somewhat grand title of "Executive Director" effectively hides the reality of what this job actually is. In the early weeks, I would be an electrician, an orthopaedic surgeon, a blood donor, a teacher, a negotiator, a night shift doctor, an accountant, a clinician. Only occasionally would I feel anything like an Executive Director.

So, a few words of background. In 2015, the Lao Friends Hospital for Children opened in Luang Prabang, Northern Lao as the paediatric service for the Luang Prabang Provincial Hospital. Initially offering just outpatient services, the hospital had expanded by opening a 20-bed inpatient unit and an emergency department a few months before its first birthday. The hospital is housed in a newly constructed building on the site of the Luang Prabang Provincial Hospital and is furnished with modern, but basic, equipment. The staffing model is that of a local Lao workforce of doctors, nurses and support staff with a small number of full time overseas doctors and volunteers providing support, education, training and guidance. The whole operation was created and is backed and financed by a New York and Tokyo based not-for-profit organisation, Friends Without a Border.

As the hospital offered quality health care for no charge, the numbers of children coming through the door very quickly doubled over those previously seen at the Provincial Hospital. The case load rapidly far outgrew anything that had been initially envisioned, both in numbers and medical complexity. With no aeromedical transport and an 8-hour drive on a bumpy road to the capital Vientiane, virtually everything needs to be done here. Optimism and a "can do" approach is essential. Clinical necessity drove the opening of an operating

theatre, a neonatal unit and an expansion to a 30-bed capacity. Now two years after opening, up to 90 children attend outpatients daily, four children a day are operated on and around 30 children receive inpatient care.

Two months after our arrival, the precarious nature of the medical staffing model became apparent with no volunteers booked in for a month. Chris and I found ourselves the only two overseas doctors in the hospital. Not since working as an intern over 30 years ago had I worked every second night and every second weekend. Of course, the other major downside was that Chris was the other "intern" and so was working at the times I was off – double jeopardy! But one does what one has to and one survives: so much for being an "Executive Director".

The hospital is full of a heady mixture of tropical medicine, "bread and butter" paediatrics, and trauma. Will I ever forget the 6 year old boy shot in the face by his 7 year old brother with a home-made gun and how they were inseparable from each other on the ward, or the boy with abdominal pain (query appendicitis) and droopy eyelids who omitted to mention that he had been bitten by a snake a few hours earlier? The cases of typhoid fever with every known complication, or the tragedy of lethal totally preventable diseases like neonatal tetanus and wet beriberi? These were all things that we faced in the those first few months. We face medical challenges every day. Conditions that should be straightforward to treat, like pneumonia and gastroenteritis, present late and with complications. Not only do our children often have serious medical conditions, but also major social and economic issues. For example, they come from remote places and have already travelled 6 hours before they get to hospital, in addition to which they are malnourished, may well be one in a family of ten children that has extremely limited resources. Furthermore, many of our families appear to have a unique cultural understanding of disease.

But this job is as much about our Lao doctors, nurses and allied health staff as it is about our patients. In a country with only 0.18 doctors per 1000 people (Australia has almost 20 times more at 3.27 per 1000) doctors are in short supply and paediatricians even more so. A paediatric residency training program in Vientiane has trained about 120 paediatricians but they are still rare, especially in rural areas. Consequently, most of our doctors are young and in their first 3 years after graduating from medical school. They are enthusiastic, hard-working and fun to be with, but we often have to remind ourselves that although they are only a couple of years out of medical school, they have to take on responsibilities and clinical decisions that at the RCH would be the realm of a senior registrar or consultant.

Working alongside these Lao doctors our volunteer doctors have a vital role in guiding clinical management. Formal daily ward rounds and a 24 hour a day volunteer presence ensure that clinical advice, guidance and practical help is readily available. This, combined with formal teaching sessions and the ample opportunity for genuine mentorship, ensures that the hospital is not only delivering excellent clinical care but it is also assisting in the training the next generation of Lao paediatricians. A few RCH clinicians have already volunteered with us and we have more coming in the next few months. Would you consider joining us? Your knowledge, skills and experience can be put to great use in the development of paediatrics in this country.

We are now almost one year in and it has been far from plain sailing. Managing the rapid expansion in patient workload, a junior medical and nursing workforce on a steep learning curve and nascent operational systems has proven challenging. But there have been more ups than downs and more steps forward than back and still there is a constant feeling that we have not really scratched the surface of this complex and wonderful country. We are committed to be here for another few years and then, who knows? At present it is hard to contemplate anything beyond this.

For further information on Lao Friends Hospital for Children please go to:
https://fwab.org/

For further information on Volunteering at LFHC please email me directly at:
Simon@fwab.org or Executivedirector@fwab.org

Obituary:
Dr Noel Morris Cass

10th June 1927 – 2nd May 2017

By Dr Rod Westhorpe

NOEL MORRIS CASS

Noel Cass enjoyed a rich life that embraced many fields of endeavor, always with little fuss and great humility.

Noel was born and educated in Perth, moving to Melbourne to study medicine, following in his father's footsteps. He then proceeded on an illustrious career as an anaesthetist that embraced teaching, research, and service to medicine.

Noel was elected Dean of the Faculty of Anaesthetists in 1968, at age 41. By that time he had already served as chairman of the Victorian Sections of the Australian Society of Anaesthetists, and the Australian Society for Medical and Biological Engineering, and had published papers on hyperbaric medicine, radiotherapy and cardiopulmonary anaesthesia. He had published the first of several editions of his much-loved textbook of pharmacology, later to be jointly rewritten with his daughter, Lindy, also an anaesthetist. As a keen pianist, he had also established a jazz band, the "Jazz Doctors", that continued to play until the time of his death.

He began his association with the Royal Children's Hospital in 1958, and was Deputy Director of anaesthesia from 1975 to 1988. He established a unique research collaboration with the Monash University Department of Electrical Engineering and Professor, Doug Lampard, who also happened to be the banjo player in the band, and others, they developed a computer based anaesthesia system with feedback loop control. He wrote an editorial in 1972, discussing the place of computers in anaesthesia - long before most people had considered the possibility.

While at RCH, Noel was a key figure in the Ski Club, deftly managing its finances for many years, while indulging his love of skiing. He was president from 1973 to 1988, and continued to be an active skier until some 18 months before his death, having to give it up due to failing eyesight.

He was awarded The Royal Children's Hospital President's Medal in 1985.

One of Noel's great attributes, that he taught and embodied was professionalism. He was a gentleman, a mentor, and a sympathetic advisor.

These qualities were crucial to his long involvement with the Medical Defence Association of Victoria, where he was a councilor for 25 years and Vice-President for 10. Noel was awarded their Gold Medal in 2002.

There were numerous awards bestowed upon Noel.

The Robert Orton Medal of the Faculty of Anaesthetists, the highest honour of the now Australian and New Zealand College of Anaesthetists.
The Australian Society of Anaesthetists awarded him the prestigious Gilbert Brown Medal in 2016, having already received the Ben Barry Medal in 2000. This latter medal recognized his contribution to the Society's Journal, Anaesthesia and Intensive Care. With 44 years on the Editorial Board, he was possibly the longest serving active member of an editorial board of any major scientific journal.

He was passionate about the preservation of the history of medicine, and served both the Medical History Society of Victoria and the Australian and New Zealand Society for the History of Medicine. He served as MHSV president, and was treasurer of the ANZ Society for 13 years, being honoured with life membership in 2012.

Noel's interests outside medicine, history and music, included tennis, sailing, skiing and golf, all pursued with the same rigour and enthusiasm that he applied to his professional life.

Noel's wife, Brenda predeceased him, and he is survived by his three children, Peter, Anne and Lindy, and their families.

Noel touched many of us and we are the richer for it.