

FIG's four-yearly festival

By Malcolm Draper, Managing Director of Rentalength.

Above: the editor insists that a photo of a pretzel is better than me!

Munich's beer and warm hospitality was memorable and always in abundance but as our columnist found, some go to party and study, others come away with dust on their souls.

I hope you enjoyed the FIG Congress and Intergeo exhibition in Munich last month. Couldn't make it? Too busy? Well relax, Uncle Malc will give you the quick tour and update.

First of all, I have to confess that, I found the opening ceremony disappointingly dour. I have attended every FIG Congress since 1974 and the opening has always been a highlight. Speeches aplenty, but always in the FIG international language of English, plus music, acrobatics, dance etc (in Cairo last year for the working week we had Egyptian bagpipers). This time the speeches were all in German and the only music was four cellos. I'm sure the prime minister of Bavaria had important things to say, but alas my German is too rusty.

The coincidence of FIG in Munich must also hold difficult memories for some visitors. The social visits on offer didn't persuade my wife to join me. A salt mine, a meteorological station and a visit to the former concentration camp Dachau, were not quite what she had in mind by social tours. I visited the latter with Nick and Caroline Day and we found it totally chilling. The place looks so normal with neat poplar trees lining the camp road, yet it was the site where tens of thousands of people were murdered. We left with the dust of Dachau on our souls.

The social scene

It was really great however, to catch up with so many old friends from around the world and to meet new ones. Our old buddies from Jamaica, **Cynthia Edwards** and **Duel Thames** were accompanied by **Glendon Newsome**, **Horace Manderson** and his wife **Juliane**. From the US, where he is a crew chief, we met Munich native **Daniel Koch**, who gave us an excel-



Above: I couldn't resist having my photo taken with the colourful Chikezie Elekwa.

Right: The delightful "Helga" at the harp.



lent briefing of his native city. But always amongst the happiest people there were the Nigerians, who can always be relied on to wear their colourful national and regional outfits at the drop of hat or a party invite. I fell in love with **Chickezie Elekwa's** outfit. He could make a fortune round here at Christmas time. . .

What I like about FIG events is that you meet surveyors from around the world and they all seem to be having the same problems! I was chatting to an American surveyor, who runs a private firm, and I asked him, do you have any little sayings or witticisms that guide your business life? Like my dad's "Remember a sale is a gift until it's paid for", or his Six P Principle. Never heard it? Well just remember, "Proper preparation prevents piss-poor performance!" My American friend added to the list with, "I tell 'em what I'm gonna tell 'em, then I tell 'em, then I tell'em what I've told 'em!"

The full GW/RICS team were in Munich for much of the time – **Nick Day**, **John Brock**, **James Kavanagh**, **Ruth Adams**, **Alan Thunhurst**, **David Maltby**, **Andy Roberts** and **Stephen Booth**, plus **Jim Smith**, **Adam Greenland**, **Tom Kennie**, **Professor Peter Dale** (looking exceptionally well), **Robin McLaren** and I'm sure many more. We all enjoyed the company of colleagues from the Institution of Civil Engineering Surveyors including **Gethin Roberts**, **John Bacon**, **Andrew Morley** and their 'little' leader, **Alan Wright** (you know we love you Alan!). We shared some great evenings with them and many other friends, both at the Holiday Inn and at the various functions.

One of the most memorable functions was the Surveyors Reception sponsored by Trimble at the *Löwenbräukeller*, a traditional Bavarian beer hall. We were all a tad alarmed, however, when we arrived and saw the almost cleaned carcass of an ox rotating on a spit. Just at that moment one of its legs fell off into a pit of gravy. Fortunately, our portions had been cut earlier and were much enjoyed with a succession of *Weiss* beers. Why did everybody keep giving us their spare drinks' tickets? Oh dear, oh dear!

Subsequent nights were devoted to the RICS Reception and the Farewell Banquet in Munich's famous *Hofbräuhaus*. The latter was accompanied by a traditional Bavarian band, which we christened the "Hunovers", mainly because like my band the Hangovers, their enthusiasm was barely dimmed by age and by the enthusiasm of a wonderfully rotund and cheerful lady we christened Helga the Harpist. We were all presented with a very attractive memento of FIG Munich – a beautifully crafted and sharp paper knife. I do hope everyone remembered to pack it in their check-in luggage.

I will draw a discreet veil over other social events except to record that the final party on the Friday afternoon given by the Australians to mark the beginning of their tenure of the FIG Congress, was absolutely great. Apparently, during the event and days leading up to it they distributed 4000 mini koala bears. We're all looking forward to Australia in 2010 and the next FIG Congress (working weeks in Hong Kong, Stockholm and Eilat are promised in between). So gird your loins, save up your hard earned cash (remember, for most of us it's tax deductible) and join us in Sydney in four years time.

Competition

The response to our last competition, where we asked you for the next number in the series (10, 9, 60, 90, 70), has been very disappointing. Clive Osborn however, was clearly on a roll (if not a rock) with the following answer:

"The next number in the series is 15. The equation is: $y = ax^4 + bx^3 + cx^2 + dx + e$ where $a = 1.83333$ recurring, $b = -23.16666$, $c = 82.66666$, $d = -62.33333$, $e = 10$ Putting $x=5$ gives the solution 15

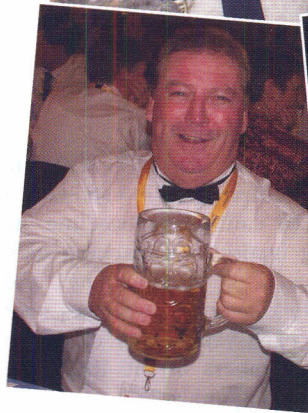
What I find remarkable is that the recurring fractional coefficients produce whole numbers. Continuing, putting $x=6$ gives -16, $x=7$ gives 80 and then it heads for the stars with 8, 9 & 10 producing values of 450, 1285 & 2820 respectively."

Well done Ossie. A great solution. . . but not the one we wanted! We did hint that the answer might not lie in the world of maths and Ossie's next answer was spot on. Now, we have decided to extend the date for receiving further answers. To help you we'll just change the question slightly by telling you that Ossie's correct answer for the next number in the series was 66. So what is the next number in the series after 66?

Miscellany

The evening lecture series at the Royal Geographical Society is off to a great start with a fascinating presentation by **Professor Chris Stringer** of London's Natural History Museum. He spoke on the project he leads on the Ancient Human Occupation of Britain. These isles have only been habitable (thanks to the retreat of the ice) for the last 10-11,000 years. In the previous half a million years or so, the islands have been occupied whenever the ice retreated enough and a land bridge provided access from Europe. He graphically showed us how to think about these enormous time spans by drawing a 30m tape across the stage at the RGS. The inch long metal tip and hook represented our current occupation; the end of the tape, the emergence of early man. Makes you think just how small and insignificant we really are.

My thanks to **Pat Collins** for sending me a copy of an amazing advert in the magazine *Building Design*. This is a double-page spread for the new Ford Transit van. The strap line mentions "makes work feel less like, well work". Indeed it does, as each side of the spread shows a Transit with its driver leaning out of the win-



Above, from top to bottom: Smile and style from Jamaica. The three 'Currents' columnists from GW and the editor. Gethin Roberts meets a koala. Ruth Adams demonstrates the perfect poise of a hydrographer. Sandra Booth and Judy Thunburst are caught up to something! Now that's what we Aussies call a glass of beer!

dow busy at work surveying! On the left, the surveyor/driver is leaning over to position a total station properly mounted on a tripod to take a shot across the road to his chainboy surveyor/driver holding a leveling staff out of his window. What on earth do they think this kit is for? Tripods and staves that can be erected out of a window. What do they think surveyors

Should you use a transit or a total station?





Our thanks to a Northampton surveyor who sent in this gem of the sign-writer's art.

do? And surveying without even getting out of the vehicle?

Thanks to **Steve Vickers** for drawing my attention to Japan's oldest man, **Tomoji Tanabe**, who recently celebrated his 111th birthday. The veteran has 54 great-grand children and was a former land surveyor. He attributes his longevity to drinking milk, keeping a daily diary, no smoking and no alcohol. Which all goes to prove what a sober and clean-living lot we are, as several of the pictures on these pages clearly reveal.

A few more of those wonderful definitions from the *Washington Post's* annual competition which requires entrants to change one letter of a word to come up with a new one. The following is a brief selection:

Beelzebub – Satan in the form of a mosquito that gets into your bedroom at three in the morning and cannot be cast out.

Caterpallor – the colour you turn upon discovering half a worm in the fruit you're eating. The newspaper also invited alternate meanings for common words. Amongst the winners were:

Coffee – the person upon whom one coughs.

Esplanade – to attempt an explanation of why one is drunk.

Pokemon – a Rastafarian proctologist

Frisbeetarianism – the belief that after death the soul flies onto the roof and gets stuck there.

Finally, I am indebted to **Nigel Blake** for these explanations to help us understand engineers:

To the optimist, the glass is half full. To the pessimist, the glass is half empty. To the engineer, the glass is twice as big as it needs to be.

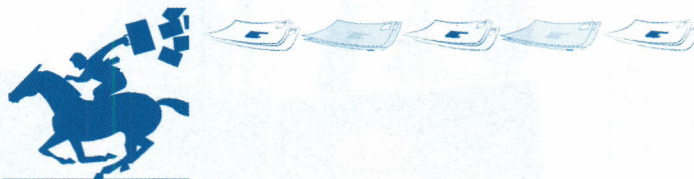
What is the difference between Mechanical Engineers and Civil Engineers? Mechanical Engineers build weapons and Civil Engineers build targets. The graduate with a Science degree asks, "Why does it work?"

The graduate with an Engineering degree asks, "How does it work?"

The graduate with an Accounting degree asks, "How much will it cost?"

The graduate with an Arts degree asks, "Do you want fries with that?"

Got a tale to tell?
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Letters

Support for Calibration

We write to give our support to the RICS Mapping and Positioning Panel's initiative to re-establish a nationally accredited EDM calibration baseline. As one of the UK's leading institutions teaching geomatics, the School of Civil Engineering and Geosciences at Newcastle University produces over 40 geomatics graduates each year, many of whom will be well known to members of the RICS, the ICES and to TSA member companies.

As part of the geomatics.org.uk project we have worked closely with many UK based surveyors to promote the geomatics profession by supporting the teaching of geographic information and surveying in schools.

As part of our three-year RICS and ICES accredited undergraduate courses we impress upon our students the need for professionalism in all aspects of their future careers, in particular the need for instrument calibration and checking. We recognise the difficulties currently faced by surveyors who have no access to a UK based and nationally traceable EDM calibration facility. The Ashford Common baseline is an ideal location for this facility, given that the required infrastructure is already in place.

We trust that the proposed solution will be fully supported by the UK survey industry.

Prof David Parker, Dr Jon Mills, Dr Stuart Edwards

Geobland?

Having heard on the grapevine that *Geomatics World* had arrived a few days ago, I consulted the round grey filing tray and found it nestling between Viking Direct and Dell special offers.

If you must follow the Corporate Diktat and make it indistinguishable from all the other material which flows from Great George Street, at least print "Important Documents Enclosed" on the address label. Singing high praise in the editorial might, of course, eventually come back to haunt you. Remember that being the best thing since sliced bread (or auto-traversing laser scanners) has now been proved to have no scientific basis.

I look forward to the day when we return to eye-catching covers which attract and inform.

Chris Mills

The above is outnumbered by a factor of more than ten to one the approving comments that we've received verbally and by email on the redesigned cover. I should add, however, that as editor and publisher I was initially unenthusiastic about the change. Nevertheless when I saw the first draft from our graphic designer I was relieved and impressed. I believe that GW retains its distinctive style but with a cover that more closely aligns it with the Institution's other publications – Editor.



Above: Delegates in the Deutsches Museum.

FIG MUNICH: History workshop with dance diversion

– the Aztec cadastre, Mercator, famous Swiss and Australian surveyors and dancing girls!

The opportunity to visit a local mapping agency during the FIG week was not to be missed. The Bavarian Office for Surveying and Geographic Information (LVG) employs over 1000 people in well maintained and attractive offices near the centre of Munich, not far from the River Isar. Our visit was part of the now regular series of pre-conference workshops to hear the latest research into the history of our profession and especially those who pioneered and shaped it over the last half millennia or so.

After inspecting the LVG's excellent displays of historic instruments and litho stones (from which maps were once printed) we settled down to hear a fascinating account of **Dr Christine Mosselmans'** research into the land cadastre of the Aztecs. To be more precise the system was forced on them by Cortes and the Spanish, who imposed a well ordered and typically European medieval system, albeit with glyphs rather than writing. Comprehensive records showed land parcels with records of soil classification and tax assessments based on gender and age of the occupants. Taxes were rendered in cacao beans and corn. With words like "tlahuelmatli", meaning census, it is not difficult to see why the Aztecs settled for glyphs rather than joined up writing.

Mercator's geometric skills

Jan De Graeve is director of the International Institution for the History of Surveying and Measurement, our hosts for the workshop. He is also an expert on his fellow countryman Gerard Mercator (1512 – 1594). With many illustrations from rare and antiquarian books, he spoke of the great cartographer and map projectionist's library of books – believed to number at least a thousand – as a source to dispel some of the myths about Mercator. It has been said that he was poor at geometry yet De Graeve skilfully showed that this was unlikely for a man who had some of the then most authoritative books on the subject including treatises by Boethuis, Copernicus and even the Saxon chronicler, the venerable Bead. He also challenged the view that none of Mercator's own instruments had survived their auctioning off after his death. De Graeve has found several examples bearing his telltale initials and typical Flemish decoration. Amongst the many contemporary images he showed us was a fascinating one of 16 people emerging from a church and below them a scale of 16 "feet". Was this how the foot was defined in the Middle Ages, 16 random churchgoers?

Geodesic dancing

During the lunch break each course was punctuated by a troupe of dancing girls. . . Dancing Girls? In a mapping agency? To be fair *Hausgemacht* (it means homemade in English) is four girls and one guy; they put on a charming interpretation to music whilst weaving and rolling in and out of a geodesic polygonal wood-framed structure. It was an interesting diversion by a talented multi-national group of young people. Other mapping agencies should follow suit.

This wonderful mosaic sits on the wall of the LVG's entrance foyer. Does a successful survey mean the lads get to swim with the girls?



Above: Hausgemacht entertained us with a sort of geodesic dance.

After lunch the workshop resumed with what regulars to these events often call the “graveyard shift” – the time when, replete after a good lunch, one struggles to maintain concentration and to avoid the beckoning pleasures of a light nap. Fortunately, on hand were the Swiss, with their challenging topography, and the Australians, with their frightening tales of what happened to early surveyors wandering off in their great outdoors.

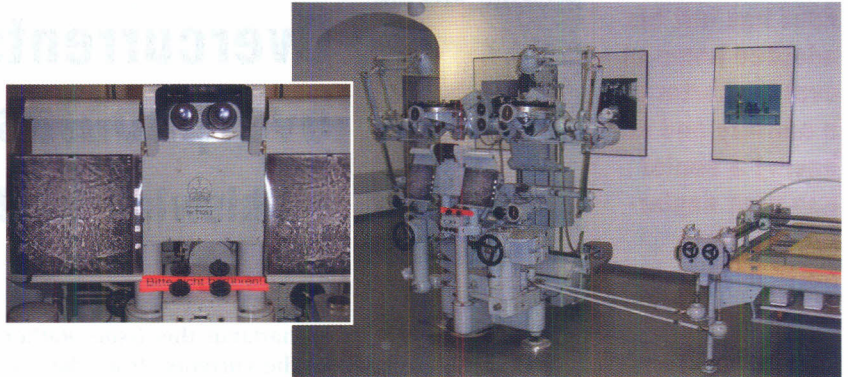
Thomas Glatthard's presentation on *Pioneers of Surveying of the Alps* was a well illustrated account of how Switzerland has been mapped, or modelled, over 500 years. Many of the engravings and images reflected the challenging terrain not just for cartography but for the surveyors on the ground (or more accurately on the peaks, crags and gullies). The first detailed 3D relief model was made by Samuel Bodner in the late 18th century just ahead of Hassler's first baseline measurement and triangulation. Hassler was to go on from tiny Switzerland to a much larger territory – he became the first Superintendent of the US Coast & Geodetic Survey, one of the predecessors of today's National Oceanographic & Atmospheric Administration (NOAA).

Tunnelling the Matterhorn

Building on Glatthard's presentation his colleague **Madlena Calveti** talked about Xaver Imfeld, an early student at ETH technical university in Zurich (today a renowned centre of excellence for photogrammetry). His surveying and engineering work included a 3D model of the Jungfrau and the surveying for the railway up to and through the Matterhorn peak via a series of tunnels. Alas, he did not live long enough to see the project's completion, dying in 1909. Clearly a very popular and loved character, a photograph from his funeral cortege shows a string of carriages and people lining the streets. Does anyone know of any other surveyors recorded such honours?

John Brock is well known to readers of this journal through his regular *Downundercurrents* column. John is also one of Australia's leading researchers on the history of surveying, surveyors and cartography. His presentation had the subtext of “Brocky's favourite German Aussies” and examined the links and ancestry of Alt and Phillip, respectively the colony's first governor general and surveyor general. His research revealed, however, the surprise that whilst Phillip was born in Frankfurt Alt was born in London (people travelled more than we might think in those days).

Brocky's countryman **Bob Linke** can claim direct ancestry from Germany. His field of research has been early German surveyors in New Guinea. After reminding us that the territory first appeared on one of Mercator's maps (two hundred years ahead of Captain Cooke's discovery of the adjacent continent of Australia), Linke took us through plans for Zeppelin-based aerial surveys to Oberleutenant Surveyor Dretner, a small but commanding figure who was leading surveying activities at the outbreak of World War I in the then German territory. Despite determined efforts by Aussie forces in New Guinea to



capture Dretner he remained at large, only surrendering upon the armistice in 1918.

Linke's colleague, **George Baitch**, told us about another German surveyor, or rather explorer. The enigmatic Ludwig Leichhardt travelled vast tracts of North East Australia in the mid 19th century preparing a gazetteer of place names and naming many topographical features after his expedition's members and sponsors. Leichhardt and his party disappeared in 1855 and despite many attempts stretching over decades to discover traces, very little has been found.

The workshop spanned two days, with the second taken up with a visit to Munich's famous technology collection, the *Deutsches Museum*, which has a superb geodetic collection that traces the history of surveying from earliest times to the present. Most of the exhibits are bilingually labelled and at the start there is a touch-screen portal to guide you through the collection. A must if you're visiting this fantastically interesting and entertaining city.

• *Our thanks are recorded to the contributors to this excellent event and to Florian Huber of the Bavarian Office for Surveying and Geographic Information for hosting and organising the meeting.*

The FIG Calendar

Calendars for 2007 are available with each month depicting an historic scene, document or instrument related to the history of surveying. The calendar also lists major international surveying, cartographic and GIS events. Copies, price 5 euros each are available from Jim Smith:

(jim@smith1780.freemove.co.uk) or

Florian Huber:

(florian.huber@lvg.bayern.de). There are discounts for multi orders: 10-99 copies, 4 euros; 100 or over, 3 euros.

The Art of Surveying

A catalogue showing a selection of antiquarian books and survey texts held by the *Deutsches Museum* is held on a CD and was distributed to delegates. If there is sufficient interest a printed version will be prepared. The cost will be £13 or 20 euros. Orders by 31 December 2006. More info from David Wallis at: davidawallis@aol.com

Above: a fine Zeiss Aerocart photogrammetric plotter is on display at LVD's headquarters.



There are many fine historic instruments on display at LVD's museum.

Another busy time finds our antipodean 'current' tapping the keys in his Munich hotel room. Surveying history, careers and beer (are you surprised?) are to the fore.



Seminars, conferences, history weeks. . . and beer

by John F. Brock

I have always known that surveyors are versatile and hard working because I just happen to be writing this latest column in my room at the Holiday Inn in Munich. Along with our illustrious editor Stephen, his wife Sandra, my two alter ego journalists of the other two "currents" columns, scores of other Brits and colleagues from several countries, we are all participants in the XIII FIG Congress being staged in Germany this year. My version of what went on over here will be elucidated in the next *GW* magazine (we're looking forward to it John; we won't judge until we've heard your side of the story! – Ed).

A beer with Chuck

In early August Kerima-Gae and I were most fortunate to attend a tour of the Malt Shovel Brewery in Sydney personally guided by none other than Chuck Hahn himself. Chuck was the founder of Hahn Beer, the rights of which he flogged off to the NSW brewer Tooheys. In this fantastic boutique brewery, the James Squire label beer is hand tended by Chuck and his fine band of master brewers in memory of the first Australian settler to brew beer in our country. Like many other industrious settlers on the First Fleet to our land he was sent down under by another of Britain's fine judges. Well done, guv!

New surveying careers CD

Not wishing to be too overbearing (you John, surely not – Ed), when I was asked to join the Head of the School of Surveying and Spatial Information

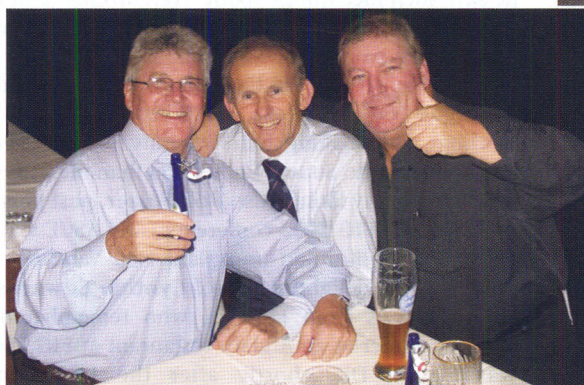
Systems from the University of New South Wales, Professor Chris Rizos, I boldly decided to create my own Careers CD which would actually get the high school students just a little bit interested in choosing our great profession for their future employment. It contains many still images of Hollywood stars playing surveyors in some of their movie well as that stunning femme fatale played by Jennifer Garner in the cult television series *Alias*, strutting her topographic prowess in one of the episodes.

Any surveyor or organisation who would like a copy of this CD to utilise for their own country can simply contact me on: surveyor@hramsay.com.au and I would be more than pleased to arrange a copy of the CD PowerPoint presentation for you. You may even be surprised about what you see.

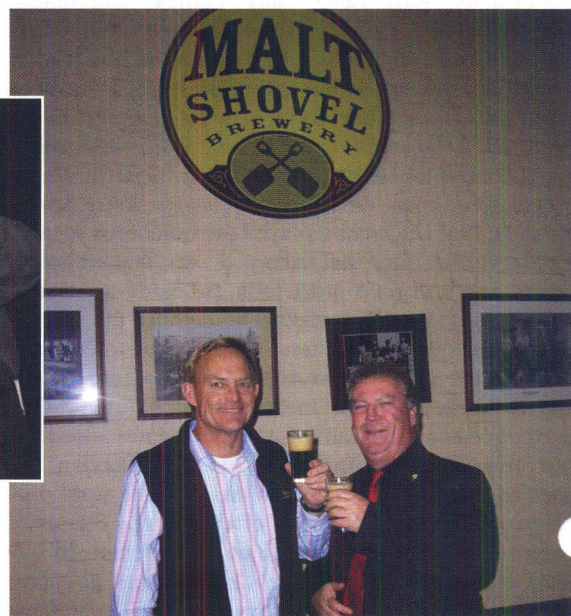
Bill's excellent farewell led to the never never

I was very pleased with the one-day history seminar which I ran in honour of Bill Kitson's retirement from his position as Curator of the Museum of Surveying in the Lands Building at Brisbane Queensland. Bill is a true champion of the history of surveying and mapping, so it was great to see the venue bulging with 98 attendees to hear the various papers given under the theme "From Zheng He Flinders – Australia Mapped". Because he had left his

It was great meeting up with the two other "currents" columnists in Munich.



Yours truly enjoying a beer with Chuck Han at the Malt Shovel Brewery.



CL back in Canada, Tai Peng Wang from Canada (originally from China) was forced to give a somewhat uninspiring piece about the great Chinese Admiral Zheng He, but other speakers more than made up for this disappointment. Jan De Graeve came all the way from Belgium to fascinate us with "Gerard Mercator – The Surveyor and His Library", followed by Bob Linke and Frank Urban each putting forward evidence for the secret Portuguese discovery of Australia from 1522. Michael Ross from New Zealand wonderfully highlighted the Dutch discoveries of Australia by Willem Jansz in the *Duyfken* in 1606 and Abel Tasman between 1642-44. My contribution was to ask, "Who really named Australia?"

We then took Jan to Darwin to attend the truly superb "400 Years of Mapping Australia" conference brilliantly coordinated by Trevor Menzies and his terrific team. Many great papers detailing our colourful mapping heritage were given with mine, "New South Wales in the 1830s by Mitchell and Dixon – Perfection, Piety and Piracy", given favourably mention in Jon Fairall's editorial in the most recent edition of the Australian surveying magazine *Position*. The three of us then finished off this great trek with a visit Kakadu National Park to see Aboriginal cave painting from 4,000 to 10,000 years old as well as very large crocodiles and jabisrus in their native environment.

Terra Australis Aperio

Having accepted the invitation of the Australian Society for the History of Engineering and Technology (ASHET) to give a pictorial presenta-

tion about the evolution of Australia on the map for NSW History Week, I did so using the above title for the show. A record crowd of over 60 delighted in the very ornate cartographic masterpieces which gradually traced the actual representation of Australia throughout history from Ptolemy's first postulations about a great southern land in about 160 AD right up to a Google Earth zoom-in to where the meeting was conducted.

Two memorable exhibitions

The Polish Consul General for Australia, Mr. Ryszard Sarkiewicz, opened an extensive exhibition on the history of Tadeusz Kosciuszko at the Macquarie University Library in late July. Most people will have seen my mention that Australia's tallest mountain was named by Sir Pawel Strzelecki after the great Polish general when he became the first European to climb to its summit in the early 1840s. He also helped one of the great US surveyors, George Washington, beat up the English in the American War of Independence in the 1770s. The most recent display of historical note to which I have travelled by coach to see was "Cook's Treasures" at the National Museum of Australia in Canberra. Artifacts from all of Captain James Cook's three world voyages of the Pacific Ocean were generously on loan from the Göttingen University in Germany. The only other lucky place to be granted the privilege of seeing them before they return to their home is the US State of Hawaii.

"... gradually traced the... representation of Australia... from Ptolemy's first postulations about a great southern land... right up to a Google Earth"



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