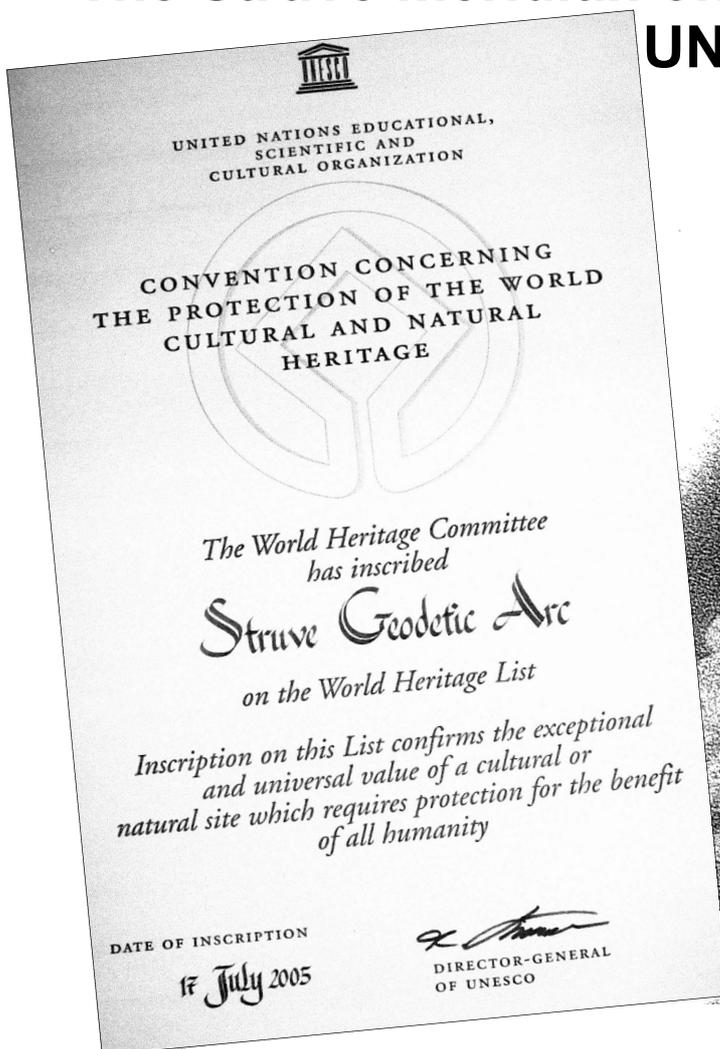




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The Struve meridian on the World Heritage List of UNESCO



Friedrich George Wilhem Struve (1793-1864)

Also in this issue:

- **More biographies of brilliant but forgotten scientists of the 19th century**
- **Numerous book reviews**
- **BIMCC programme for 2006**
- **... and the usual departments**

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EDITORIAL

Dear Map Friends,

I first would like to express my appreciation to Pierre Parmentier for kindly taking over the task of editing the Newsletter No 25 while I was away, down under, last Spring, and also for somewhat refreshing and simplifying its presentation. However, you may have noticed that he let in a false news (dated 1 April 2006) regarding a new prime meridian in Europe!

In this Newsletter, Jan De Graeve is giving us the real story of the meridian measurement by Struve in eastern Europe, an outstanding piece of surveying — 2 821 km covered in about 40 years — which provided a sound basis for the cartographic knowledge of our continent; he thus complements the story of the measurement of the 30th meridian in Africa which he told us a year ago.

In this issue, you will also find the last of the biographies of forgotten Belgian scientists, which Bernard Jouret had presented at our Study Session last December; this concludes the follow up of that Session.

Our next issue will be focused on the report and follow-up of our coming Conference on 'Charting the seas' (see the programme page 25); do not forget to register!

Cartographically yours,

Jean-Louis Renteux
Editor
editor@bimcc.org



Contents

Pictures at an exhibition	
I: Europe's vision of the world on old maps	4
II: <i>The Dutch mapping of Australia</i>	6
Places with maps	
La Galleria delle Carte Geografiche	8
Looks at books	
I: <i>Miniature Antique Maps</i>	10
II: <i>The Map Book</i>	11
III: <i>Valetta Citta Nuova</i>	13
The Struve Meridian Arc	15
Those brilliant but forgotten scientists of the 19th century	22
BIMCC News	
Programme for 2006	25
International news and events	26
Auction calendar	29

Cover: The UNESCO diploma and a portrait of F.G.W. Struve (courtesy of the Museum of Pulkova).



PICTURES AT AN EXHIBITION (I)

Europas Weltbild in alten Karten : Globalisierung im Zeitalter der Entdeckungen (Europe's vision of the world on old maps: globalisation in the age of discoveries)

Exhibition at the Herzog August Bibliothek Wolfenbüttel, Germany, 19 Feb. - 4 June 2006

Catalogue in German, 224 pp, 125 colour and 70 b/w illustrations, including 10 full-colour facsimile maps in a slip case, EUR 30.00 at the Exhibition (sold out), EUR 60.00 when ordered through a book store from Harrassowitz Verlag, Wiesbaden, ISBN 3-447-05352-6.

Copies of individual facsimile maps can be obtained from Herzog August Bibliothek, Lessingplatz 1, D-38304 Wolfenbüttel, Tel +00 49 (0)5331 808 112, <http://www.hab.de> (EUR 10.00 each facsimile map).

It was my first visit to this small town of Wolfenbüttel, just south of Braunschweig (Brunswick) in Lower Saxony, but it became a memorable one. As some of you will recall, the Herzog August Library has been in the international headlines when it became the depository of the world's most valuable (some say the most expensive) book in the world, the *Evangeliar* of Henry the Lion, a manuscript dated 1188, after it had been acquired by Germany at a Sotheby's sale in 1983.

Founded by Duke Julius in 1572, the Library achieved world fame under Duke August of Brunswick-Lüneburg (1579-1666) with a collection of manuscripts and books unequalled in the world. The philosopher Leibniz (1646-1716) was a part-time librarian here for 23 years, later to be succeeded in this function by Gotthold Ephraim Lessing (1729-1781), the German dramatist and writer.

Today the Library holds approximately 800 000 books, among which 350 000 volumes of the 15th to 18th century, 12 000 medieval manuscripts, 5 000 maps and portolans, plus a number of globes and original music scores.

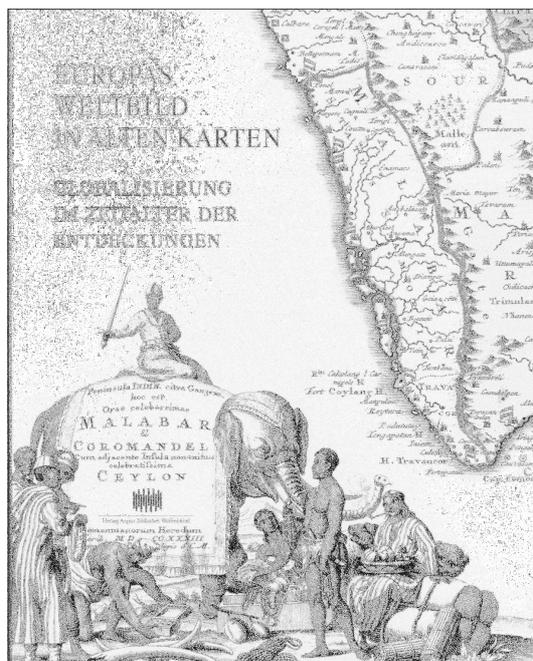
The exhibition opened with two examples of the earliest cartographic documents that have survived: a 6th century Latin codex with a local survey of a piece of land in northern Italy, and a later copy of part of the well-known *Tabula Peutingeriana*, the original of which was created in the 4th or 5th century. Medieval T-O maps were followed in sequence by a 12th century copy of the world map from the *Liber floridus*, possibly the oldest medieval encyclopedia, created in the late 11th century by the canonist Lambert of St. Omer in South-Flanders and now kept in the Gent University Library. This was complemented by a number of facsimile pages from the same manuscript in adjacent displays, not recorded in the catalogue, but beautifully documenting the outstanding value of this unique manuscript.

Portolans were next, with the oldest Portuguese ms. chart of the Indian Ocean (Reinel, 1509) exposed in the Cabinet of Globes, under what seemed excessive artificial lighting for such an ancient chart. Further portolans by anonymous authors and by Battista Agnese, Homem and Ribeiro completed this chapter, all in exceptional condition.

Among the early printed maps was the woodcut world map published by Lucas Brandis in Lübeck in his *Rudimentum noviciorum* (1475) which precedes the first printed atlas, the Bologna edition of Ptolemy's *Cosmographia*, by two years. Further on display was a world map by Lienhart Holl (or Holle, Ulm, 1482), one from Schedel's Nuremberg Chronicle, another by Apian, and the one copied from Apian's by Gemma Frisius, plus an interesting circular world map of ca. 1524 attributed to Juan Vespucci, Amerigo's nephew. World maps by Münster, Mercator and Ortelius plus a pair of terrestrial and celestial globes of 1640-48 by Willem Blaeu demonstrated the advances made in geographical knowledge in the 16th and 17th centuries.

But there were three world maps I found outstanding in this part of the exhibition :

- The only extant copy of Bernard van den Putte's twelve-sheet cordiform woodcut world map published in Antwerp in 1570, a copy of Giovanni Vavassore's world map (Venice, 1558) which in turn is based on the now lost world map by Caspar Vopelius (Cologne, 1545)
- The unique world map by Georg Braun (Cologne, 1574), well-known also through his association with engraver Frans Hogenberg. This wall map composed of six copperplate-engraved sheets uses as a background motif the double-headed eagle of the Holy Roman Empire, each feather of its wings being adorned with the crests of ecclesiastical and secular princes. This image is surrounded by the personification of six planets and the sun.





Duke August in his Library, copperplate engraving ca 1650

•Antonino Saliba of the Maltese island of Gozo in 1582 published a circular cosmological world map which he justifies, at the beginning of the two columns of text to the left and right of the map proper, as follows : *Questa Machina del Mondo contiene in se tutte le cose che Idio creò per gloria sua* (This machine of the world contains all that God has created for His glory). Nine concentric traditional spheres, representing the circles of fire, the constellations, winds, the world's northern hemisphere, the world's surface and its subterranean parts, with the inferno in the middle, make up the central part of this only existing example of an extraordinary map (see further on about the facsimile, and see also p. 14 below on later copies of this map).

The experienced visitor of such or similar exhibitions might have felt a little 'blasé' when he finds, in the following sections, examples of the essential show-pieces by Ortelius, Mercator, Blaeu, Janssonius and other renowned mapmakers with whose maps the European expansion across the Americas, Africa, Asia, the Pacific and the polar regions is documented. Yet each of these regions provides an opportunity to also include lesser-known cartographic documents that admirably complement the basic maps shown.

A pair of terrestrial and celestial manuscript globes, not part of the exhibition but difficult to miss in one of the exhibition halls, I found particularly interesting. They are the so-called 'Helmstedt'-globes (Ø 90 cm, ca 1590), named after the University town nearby, the fundus of which was transferred to Wolfenbüttel when the University was closed in 1810. They are in absolutely beautiful condition, and I was wondering if they had been described and analyzed by globe specialists.

A catalogue in German by Christian Heintzmann, the Curator, was available at the exhibition for EUR 30.00. On 224 pages you find no less than 125 colour and 70 b/w illustrations inserted into the texts on the three main chapters : representation of the Medieval world – the age of discoveries to the 16th century – European expansion thereafter.

What makes this catalogue unique is that a supplement comes with it, comprising ten folded large-scale (49 x 63 cm) full-colour facsimiles of maps exhibited, in a slip case. As these may be bought individually from the Library, I'll mention their titles here:

Plate I: world map from *Liber floridus*, 12th c.

Plate II: [Reinel], map of Indian Ocean, 1509

Plate III: [Ribeiro], America, ca 1532

Plate IV: [Ptolemy] Holle, world map, 1482

Plate V: H. Schedel, world map, 1493

Plate VI: A.. Saliba's circular world map, 1582

Plate VII: A. Ortelius, *Typus orbis terrarum*, 1570

Plate VIII: A. Ortelius, *Aevi veteris...* world map, 1570

Plate IX: J. Janssonius, *Tabula Magellanica*, ca 1650

Plate X: Joan Blaeu, *Pecheli sive Peking*, 1655

To take the example of the Saliba map, this is reproduced at more than two thirds of the original size, with all texts truly readable, although a magnifying glass would ease the deciphering. Taken as a whole, this catalogue is a marvellous piece of cartographic documentation.

The Herzog August Bibliothek in Wolfenbüttel has an immensely rich map section, and you can obtain a reader's pass for EUR 10.00 which is valid for the rest of your life, so hurry, or don't, as you feel. I spent the better part of an afternoon looking at a Lafreri atlas, and some other maps of Africa.

My wife Dominique and myself were also admitted to visit the restoration department of the Library, where Mrs Almuth Corbach and her staff introduced us to the various mechanical and chemical devices employed to preserve ancient documents, including maps and atlases. Here we obtained confirmation of the existence of two different approaches towards restoration: the 'archival' or 'museological' one, limited to minimal intervention with paper and its bindings, with the intention of preserving from inevitable future degradation what can be preserved and stabilized now, as opposed to what one might call 'bibliophile' restoration, still practised by some restorers who will be tempted to give old documents an original lustre with new bindings, bleaching, added margins on maps, hoping to please private customers and increase, in their view, the market value of the book or map. Point to be pondered...

For those whose interests go beyond old maps, let me mention that the current exhibition at the Herzog August Bibliothek is about encyclopedias of the early modern times: *Seine Welt wissen* ('Knowing one's World', 11 June to 12 November 2006).

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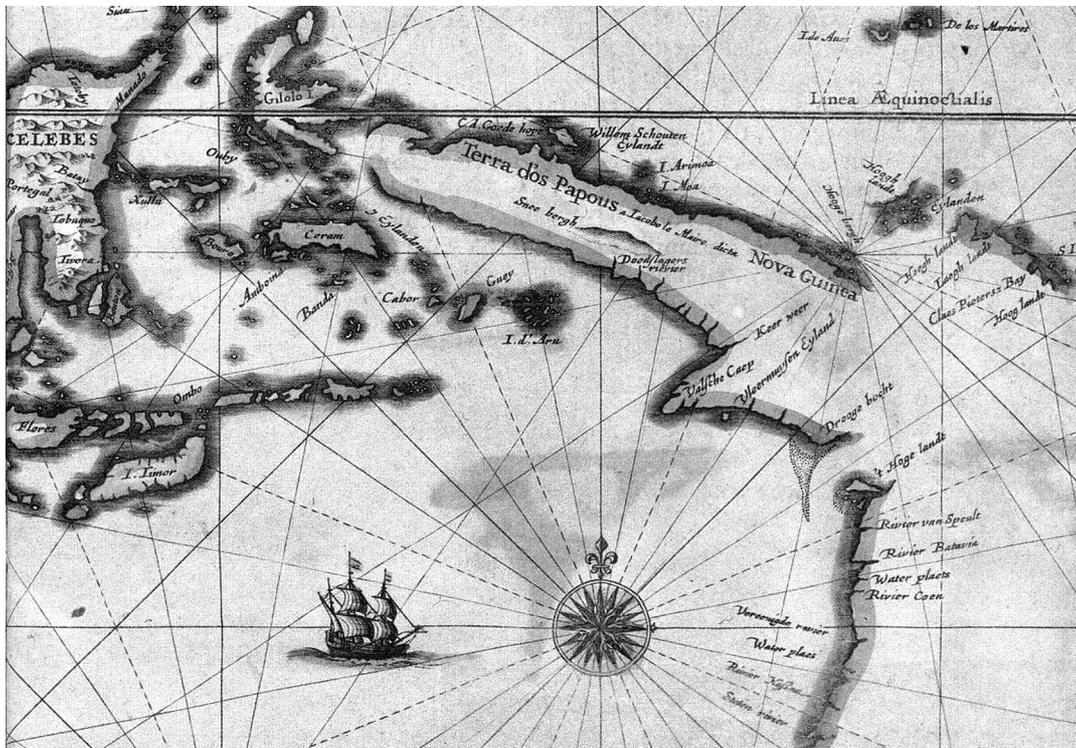


PICTURES AT AN EXHIBITION (II)

First sight, the Dutch mapping of Australia, 1606-1697

Exhibition at the State Library of New South Wales, Sydney - 6 March-4 June 2006

A small catalogue was handed out: 30 pages with 17 colour illustrations



Hendrik Hondius' *India quae Orientalis dicitur...* Amsterdam, 1641?
New Guinea and Australia's Cape York are still shown as a continuum...

The celebration of the 400th anniversary of the discovery of Australia by Willem Janszoon in 1606 has been fairly discreet: nothing comparable to the great Columbian exhibition of Chicago in 1892, nor to the world wide celebrations of Columbus' discovery in 1992! This might be due to the still prevailing belief that Australia was discovered by James Cook in 1771...

A notable exception was the small but interesting exhibition which had been organised by the State Library of New South Wales in Sydney: with just twenty exhibits – mostly maps – it gave a comprehensive view of the early encounters of Dutch explorers and navigators with the Australian continent.

The reason for the Dutch presence in the far East was first evoked with the *Itinerario* published in 1596 by Jan Huygen van Linschoten: it depicted the wonders which the East Indies had to offer, and encouraged Dutch merchants to compete with the Portuguese for the lucrative spice trade, from which they had been excluded by Spain a few years before.

In 1606, after the creation of the Vereenigde Oost-Indische Compagnie (the United East India Company, known as VOC) and the establishment of Batavia (now Jakarta) as the Dutch basis in the East Indies,

Willem Janszoon was sent with a small vessel, the *Duyfke*, to explore the shores of New Guinea, find new riches to exploit and, possibly, a new route across the Pacific.

The chart of his journey – which is known only through its copy in the atlas Blaeu-Van der Hem – shows that, after charting New Guinea's south-west coast, he reached the northern coast of Australia, without realising that a passage was possible through the cluster of small islands shoals and reefs (Torres Strait) and that it was no longer New Guinea. His journal has now been lost and details of his discovery are only known through second hand reports; it appears that this first encounter with Australia was not too happy; he lost several men, probably through an encounter with natives who were particularly aggressive and prone to cannibalism. As he could not find any commodities worth trading, nor even supplies required for his crew, Janszoon did not prolong his exploration of what is now known as Cape York beyond 13°40'S, at a place he appropriately named 'Cape Keerweer' ('turnback'); this is the oldest place name given by Europeans in Australia.

In 1623, Jan Carstenszoon retraced Janszoon's exploratory journey and pursued it further south and



west. He left a precious journal – which was on display, thanks to a loan from the Dutch National Archives – which explained the difficulties met by his predecessor.

Other encounters of Dutch navigators with Australia occurred by chance, when they sailed along with strong westerly winds from the Cape of Good Hope, before heading north towards Batavia, and found themselves close to the dangerous and uncharted coast of Australia. That was the case of Dirk Hartog who arrived at Shark Bay in 1616 with the *Eendracht* (Concord); he landed and left a plate on a tree to record the event; this plate, which had been brought back to the Netherlands in 1696 by an other explorer, was lent to the exhibition by the Rijksmuseum, Amsterdam.

A less fortunate encounter occurred in 1628 when the *Batavia* struck Morning Reef; the dramatic events which followed (mutiny, massacres, starvation, executions, etc) were reported in an illustrated book on display.

The findings from the various journeys of VOC vessels were compiled and presented on the first map of Australia, then known as *Landt van d'Eendracht*, by Hessel Gerritszoon (engraved in 1627); this shows the various portions of shorelines which had been explored so far, but it did not give a comprehensive picture.

From 1642, Anthony van Diemen, head of the VOC in Batavia, sent Abel Janszoon Tasman on

several missions to complete the picture, and find new trade opportunities. Manuscript drawing and charts illustrated the extensive survey work accomplished. As shown on a map by M. Thévenot published in 1663, Tasman's voyages provided a comprehensive view of the north, west and south coasts of Australia – then shown as *Hollandia Nova* – as well as the newly discovered 'Van Diemen's land' (later renamed Tasmania) and parts of New Zealand. But Tasman did not establish clearly that Australia is separate from New Guinea (the strait discovered by Luis Torres, also in 1606, was kept secret by Spain until ... 1762).

Finally, the exhibition presented the journal of the scientific exploration of the west coast by Willem de Vlamingh in 1696-97 and the resulting map, which was only published in 1753.

Altogether, Dutch explorers and navigators had then been able to identify the shape of the Australian continent, except for its south-east coast which would only be discovered by James Cook more than a century later (this is another, better known, story).

Jean-Louis Renteux

NB: A 1751 map by Robert de Vaugondy shows that details of the north-east coast were known before Cook, maybe by the Dutch or the French (this was not shown in the exhibition, but mentioned by Henry van Zanden in *1606, discovery of Australia*, Rio Bay Enterprises, Perth, 1997).



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PLACES WITH MAPS

La Galleria delle Carte geografiche or a 120 metre mural atlas through (16th century) Italy

Rome, 9 April 2006, Palm Sunday, sunny, no clouds, 20° C. One hundred and twenty metres long, *la Galleria delle Carte geografiche* (the Vatican Map Gallery) is situated in a wing linking the medieval nucleus of the papal palace with the Villa Belvedere. As this spectacularly illustrated Map Gallery which is a section of the enormous Vatican Museum, is now part of the obligatory path directing rivers of people towards the Sistine Chapel¹, the conditions to visit, then and there, were not ideal.

The Map Gallery was commissioned by Pope Gregory XIII² to Carlo Pellegrino Danti (1536–1586), a Dominican from northern Italy interested in mathematics and cosmology. Some of Danti's most important collaborators were the brothers Mathias (1550-1584) and Paulus Bril (1554-1626), admittedly unknown to me, but according to the reference works (see below) Flemish artists specialized in landscape engravings. As the inscriptions of the decorations testify, the Map Gallery was finished in a two-year record time (1580–1581).

Coming from the Villa Belvedere and strolling towards the Sistine Chapel, the corridor follows more or less the geographical shape of Italy, starting with its southern regions and going up towards the north, with on the left side the regions facing the Tyrrhenian Sea and on the right side the areas bounded by the Adriatic, culminating respectively in maps of Italia Nova and Italia Antiqua. With a total of forty maps, of which there are thirty-two larger ones (circa 4.3 metres wide and 3.3 metres high) and eight smaller panels at the end of the walls, it is said to be the largest geographical representation ever made. Although the scales of the panoramas differ widely from 1:74 000 to 1:13 000, this does not affect the one global perspective, maybe thanks to the uniform artistic hand coordinating the (beautiful soft green and blue) colouring and the representations of cartouches, landscapes and allegories. What further strikes the visitor are the incredible abundance of place-names and the embellishment with cityscapes, grandiose battle-scenes and ships in all forms and sizes.

It is remarkable that the 16th century nation-vision of a then politically divided region more or less coincides with Italy's current day borders. The Map Gallery also contains wall paintings of Malta, Avignon, Corsica and Corfu, but these few exceptions are each easily explainable on historic grounds. Moreover, the

panoramas do not necessarily coincide with the then existing political borders, e.g. no less than eight panels are dedicated to the Kingdom of Naples. Although this magnificent work focuses on 'contemporary' Italy, its maps are full of historic (principally Roman) information. A baroque example offers the map of *Medionanensis Ducatus* where, in unity of time and space Hannibal defeats the Romans by the River Ticino (anno 218 BC), half a meter down the French army besieges Pavia (anno 1528), across the same river a scroll and a trophy commemorate the battle of Clastidium between the Romans and the Insubrian Gauls (anno 222 BC) and, finally, just next to this battle, Charlemagne is busy defeating the Lombards at Piacenza (anno 774).

Let's dream away with a few general examples:

- *Avenionen ditio et Venaisinus comitatus*, where knights escort the return of Pope Gregory XI over the Rhone river to Rome in 1377;
- *Elba*: it is not hard to imagine, some two hundred years later, Napoleon both having a good time and being able to easily flee from the island;
- *Ferrariae Ducatus* with the Po delta and, perfectly discernible, a large area of land reclaimed by Alfonso II of Este between 1564 and 1580;
- *Liguria*, covering not more than 20 % of the panel, leaving the rest to a ruffling sea with allegories of Andrea Doria and Christopher Columbus;
- *Lucania*, where its archeological sites are (already) distinguished with the adjective *destructum*, such as for Metapontum and Pastum;
- *Malta*: how did the Maltese knights ever survive the strangling Ottoman siege surrounding them from all sides (anno 1565);
- *Urbini Ducatus* or Della Rovere-land, just before the family died out and the State of the Church expropriated the Duchy.

Not to forget, many panoramas contain breathtaking *trompe-l'oeil* cityscapes such as, *inter alia*, Mediolanum, Bononia, Aquila, Urbinum, Taurinum, Avenio, Panoramus (all as named in Latin), or even of the *Battaglia di Lepanto*, one of the

1) Unfortunately, this is understandable: in the current lay-out of the museum, the thousands of visitors to the Sistine Chapel are spread out in one long slowly moving line. The alternative would probably be an uncontrolled amassing of people.

2) Pope Gregory XIII was "in office" from 1572 to 1585 and is best remembered for his calendar reform in 1582.



summons of the Church's glories, etc ... Some cities, such as Ancona (why this city?), Genoa and eternal Venice have been given the honour of a full panel.

So far, I have not mentioned the magnificent ceiling – *scusi* – , but one is gently pressured from behind, so it is not easy to focus on a 'secondary' aspect of this great gallery. I learned from the reference books afterwards that the ceiling is decorated with a cycle of fifty-one 'miracle scenes' more or less aligning with the regions depicted in the maps below and that Danti has even exchanged mail

with Abraham Ortelius on the iconographic program.

It is not clear what the plans, if any, are with respect to restoration, since some wall paintings are clearly not in a healthy shape, and the thousands of tourists passing this corridor (queuing up towards Michelangelo's masterpiece) will, unfortunately, only increase the urgency of the preservation issue.

More painted maps in Renaissance halls, loggias, monasteries and villas have come to us, but this one is at a very minimum a '*vaut le detour*' in its own right.



Map of Venice in the Vatican

Stands in the Gallery offer the following high quality books for each budget – all of which are also available from the publisher through internet:

- Gambi, Lucio, and Pinelli, Antonio, *La Galleria delle Carte Geografiche in Vaticano*, Franco Cosimo Panini, Modena, three volumes: volume one, Photographic Atlas, 594 pp., 795 coloured illustrations, volume two, Texts: essays and notes, 536 pp.; 120 black-and-white illustrations, volume three, Maps: 40 maps in a slip-case and topographical index, ISBN 88-7686-261-7, EUR 770.00.
- Gambi, Lucio, and Pinelli, Antonio, *La Galleria delle Carte Geografiche in Vaticano*, Franco Cosimo Panini, Modena, 1997, 351 pp., ISBN 88-7686-874-7, EUR 98.00.
- Malafarina, Gianfranco, ed., *La Galleria delle Carte geografiche – The Gallery of Maps in the Vatican*, Mirabilia Italiae Guide, Franco Cosimo Panini, Modena, 2005, 156 pp., ISBN 88-8290-803-8, bi-lingual Italian – English, EUR 12.00 (outrageously excellent price / quality).
- ... and for the annual ladies' night of our Circle – *quid nobis futurum est* — a beautiful silk scarf of Italia Antiqua.

Stanislas De Peuter
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Miniature Antique Maps **by Geoffrey L. King**

Tooley Adams & Co., P.O. Box 174 Wallingford D.O., Oxfordshire, OX10 OYT, England, 2003 (second edition), 223 pp. , hardback, b&w illus. throughout, ISBN 0-9545098-0-3, To order: GBP 39.00 (at www.amazon.co.uk)

Did not most of us start their collection with a miniature map? My first maps (two miniature maps by Alain Mallet) were offered to me by my late wife (this is where any possible comparison with Dr Tomasz Niewodniczanski stops). Such charming tiny maps have become sought after: at 10 % of the price of the larger folio maps, miniature maps offer an opportunity to start up a collection without creating display problems.

Geoffrey King's second edition of *Miniature Antique Maps* provides everything one needs to know about this topic and it is a fine and handy introduction for enthusiasts who want to go further into the subject. In a comprehensive manner he describes the essence of these maps, their mapmakers and the atlases in which they appeared. For the author the concept of miniature excludes everything that is larger than paper size A6, although he admits that there seems to be less consensus today for this definition as the term miniature map is sometimes even applied to maps larger than A5. In this context, it is regrettable that the author has not mentioned, to the extent possible, the sizes of the relevant maps or atlases per cartographer.

King's book, in appropriate miniature format, presents an excellent chronological overview of these small maps from Johann Schönsperger (1496) to Raphael Tuck (1855), not surprisingly a German at the start and a British national at the end. The main focus of the work is on maps from the seventeenth

century. Like the folio sized maps, all types of maps are found in miniature, ranging from celestial charts (e.g. by Heinrich Decimator, 1587 or by Aegidius Strauch, 1659), few nautical charts (e.g. by Benjamin Wright, 1603) to town plans (e.g. by Daniel Meisner, 1623-1631 or by Rutger Hermannides, 1661).

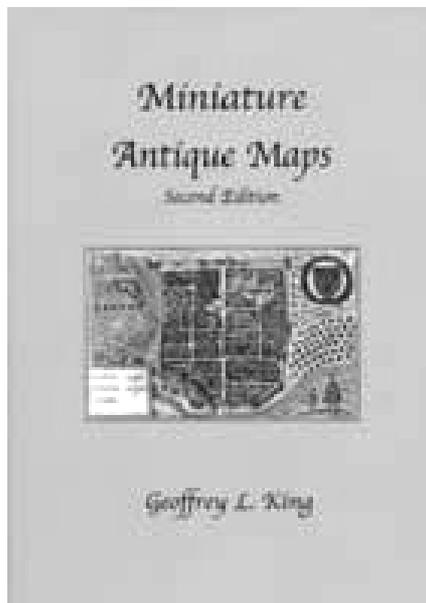
Like their bigger brothers, miniature maps have a variety of different letterings, decorations, cartouches etc. It goes without saying, however, that many miniatures, certainly the earlier woodcuts, are somewhat rudimentary, though more recent examples are surprisingly accurate and fine (e.g. by Johann Zunner, 1684-1685).

As King says, the majority of miniatures are to some extent derived from others and some are outright imitations, e.g. by Valegio (1595) after Braun and Hogenberg or by Keere after Saxton. One name to be remembered: Philip Galle published eleven miniature editions of Ortelius' *Theatrum* between 1577 and 1598 in several languages. Later editions were published by Jan B. Vrients and John Norton until 1602. No

surprise that the plagiarizers were copied as well. The *Theatrum* appeared in mini format until at least 1697.

A rarity which was quite popular is the card deck: King illustrates playing cards representing maps from, inter alia, Robert Morden (1676), William Redmayne (1676) and Johann H. Seyfried (1678).

In conclusion, this most welcome reference work is a useful tool for map enthusiasts and collectors, and will help them solve many small mysteries. Unlike the vast literature on folio maps, it fills a gap in the documentation about these endearing maps.



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LOOKS AT BOOKS (II)

The Map Book Edited by Peter Barber

Weidenfeld & Nicolson, London, 2005, 360 pp., 30 x 26 cm, hard cover cloth bound with dust jacket, ISBN 0 297 84372 9
To order: UK book price GBP 25.00, but also new from GBP 9.50 (without shipping costs) at www.amazon.co.uk

Not just another general work on Cartography!

Which choice do writers and/or publishers of general cartographic works have these days?

Many general books on cartography have the (misplaced) ambition to educate their readership about 'world history', which serves as the hook on which the author hangs the maps. Charts are then purposefully shown to provide evidence of an event in history. Consequently, it is not clear whether the book is about mapping or about history. These books may enjoy a large readership, but they are actually not so interesting for the map enthusiast. We all bought a few of them, so why spend any more money on these products, to hear again when Napoleon's battle X took place, when the Boston Tea Party happened, or when ... ? Other general books give an ABC of world mapping: obviously, the same circle of map makers are always portrayed describing almost the same maps without any fantasy. In the end, you get quite a Mercator-Ortelius-Hondius-Blaeu indigestion.

Is there still room for alternative general books? In my opinion, Peter Barber, editor of this latest attempt, has successfully faced the challenge. Indeed, *The Map Book* is clearly different: fortunately, Barber had no ambition to teach us history nor to pass through the great moments of cartography. He presupposes our general knowledge of both. But what then did he deliver? First and foremost, he assembled a team of more than 60 top-specialists: prominent contributors include, inter alia, Ashley Bayton-Williams ('1715'), Marcel van den Broecke ('1596'), P.D.A. Harvey ('1250'), Robert W. Karrow ('1540'), Monique Pelletier ('1756'), some of whom are eminent members of our Circle. Stories, if not written by Peter Barber himself, have been contributed by these supporting experts. So, we thank Barber for not wanting to re-invent the wheel. And then ... he let them loose ... The result? A witty but no nonsense coffee-table amalgam of stories of maps, anecdotally embedded in history. Barber lets us softly cruise through history, but he and his authors stay

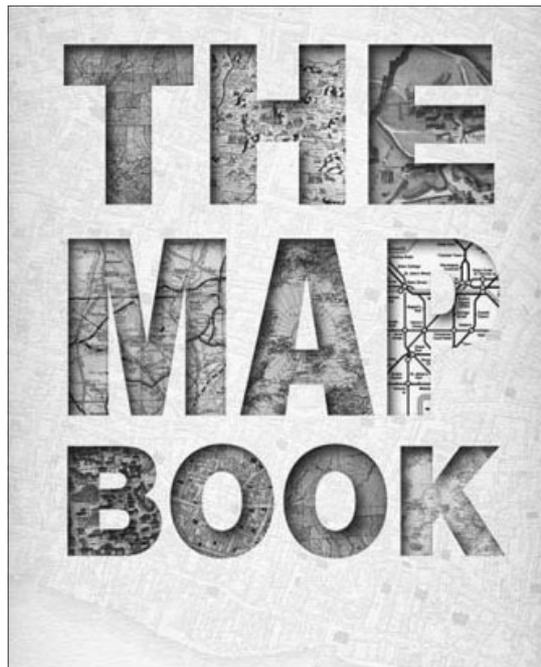
within the borders of the maps. They let the snapshots speak for themselves. Structurally, this work has a straightforward set-up: each double page shows on its right side a map and on its left side the map's date and a to-the-point essay on the map (no time and energy wasted on the map maker or the wider history).

OK, due to the obviously limited choice in the early days, the pre-book printing map selection is rather classic. But even here are some nice jewels to be discovered: a northern Spanish Mozarabic map anno '776' illustrating the end of human time, awaiting the last judgment (soon to come) in '800' gives a prominent place to the western Byzantine capital of

Ravenna before it was lost in the 750s. What to think of *The Shape of the Promised Land* on tribal biblical divisions (anno '750'), striking a balance between a mathematical design and a child's drawing and described by Dr Thomas O'Loughlin as a forerunner of the historical maps. Or later, in '1050' we assist Arab-Byzantine trading when Emilie Savage-Smith explains how 'they' see 'us': from the Book of Curiosities, a geometric Mediterranean, where, not surprisingly, 90 % of the map's coastland is covered by the Islamic region Turkey — Tunisia. It is not/would not have been different from our side.

Leaving behind us, the monsters, the lions (*hic abundant leones*), the apocalypses and some impossible wishful thinking, the book opened again ... in '1596'. This must be Marcel van den Broecke enjoying Ortelius' Utopia. Somewhat earlier, Francesca Fiorani walked us through the Renaissance cartographic mural of the Vatican Palace ('1580'): the Gallery of Maps breathes papal power, at their Darkest Side of the Moon.

Barber shows that there is life in the seventeenth century beyond the Flemish-Dutch toppers: Zur Shalev deciphers Bochart's historical map on the Phoenician link between Noah and us ('1646') and Dr Franz Reitinger studies Nicolas Cochin's anti-Jansenists map of '1660' or, ... was this movement





and counter-reaction just a continuation of the Spanish Wars in the Low Countries? However, for those in need of cartographic stability, the following will reassure: there are also van Linschoten's Mughal Indian Empire ('1619'), or Hermann's '1670' detailed map on Virginia and Maryland for which the draughtsman was amply rewarded with land by Lord Baltimore (proprietor of Maryland) and ... oh irony, was subsequently used as evidence in successive border disputes between both States against Maryland's interests. And back in the Old World, Philip Burden surfed through Ogilby's Britannia strip road maps of England and Wales ('1675'), the first national road atlas of any country in western Europe.

A few days later, Barber's tele-time machine brings us to Francisco Alvarez Barreiro's Texas in '1730' where Spanish engineers helped the government in Mexico City to maintain its authority over the outposts. Or, twenty five pages further, we emerge in India, where Joseph Schwartzberg made us cruise through an Indian T-O world map: Hindu fusion anno '1770'. Why not and almost simultaneously, in '1777' a French commercial map of Boston. What a place to be 'teleported' back to in those days. Le Chevalier Jean de Beaurain's Carte du Port de Havre de Boston publicly screams for French military intervention on the colonists' side. Nothing has changed, has it? I admit, this non-pretentious but anecdotic amalgam does not stick, but I am having fun. Le gateau des Roys, '1772's paper partition of Poland makes me wonder about Belgium. What is/was our place in history between all these regional giants? At least, for better or worse, Belgium and Poland have survived, as many other regions have simply been swallowed by their hungry dictatorial neighbours.

And then we plunge into the nineteenth century: Steve Brace traces family names in a '1804' Jamaica plantation or ... slavery map. A bit later, Wellington's troop dispositions at 'Waterloo' sketched on a piece of paper, were found on the body of one allied officer and revisited by Yolande Hodson. Years later, in '1889', we find Schwarzenberg again, who contributed with four essays in total, on one of the few maps of Asia in this book, describing a Shan map in full detail shown on the mountainous border conflict between British-dominated Burma and China. Christopher Fletcher closes the century and takes us to a heart of darkness, opening up Congo with two maps of 1865 and c. 1890, after Stanley.

'1914': Sir Ernest Shackleton's sketches on the back of a menu card in the course of a dinner party establish his proposed route across the Antarctica. Not surprisingly, most 20th century maps focus on the world wars ... '1941', next to a German map for bombing Manchester, why not an American tourist map promoting pleasure travel and gasoline consumption in and around Phoenix, or an Indian recruiting map to 'Defend the Hearth and Home'. The Asian version of 'I want you for the army' (again), or war as fuel and inspiration for mapping. 'Imagine there is no countries...it isn't hard to do ... nothing to kill or die for ...'

With Kimberly C. Kowal, the history stops in '2005' disseminating a remote satellite sensing map of Mount St. Helens. The book terminates with a stimulating query for one of our future study sessions or conferences: what makes a map a map?

And Peter Barber's own contribution? He also wrote some sections, for example, he followed William Petty's surveying ('1655'-'1659') of Ireland after its conquest by Cromwell in 1649. Or 180 years later, he accompanied Nicholas Philipot Leader's drawing of Catholic Irish agitation for emancipation and links absentee landlords to civil unrest and military oppression in '1827'. Or, '1867' one of the many European Unions *avant la lettre* under Napoléon III's Pax Gallica in his imperial attempt for 'rebirth' as a liberal pacifist, but nevertheless pretty desperate to liberate neighbouring land and already depicting an identical 'axis-colour' Germany-Italy. Have you ever played the game 'RISK'? If not, please do. For one or another 'strange' reason this family entertainment game creates strategic coalitions between nations as they existed in 'real-life' over the past 500 years.

I thoroughly enjoyed this entertaining passionate work: Barber shows us the world, our world, raw, uncooked, as it is or as it should not have been. In line with the piecemeal set-up of the book, identification of contributors and mapmakers are relegated to a secondary role. As mentioned, it does not portray us history, it does not give a scholarly overview of mapping: it only makes you discover and enjoy maps ... no other commitments. Thank you Catherine, Marcel, Monique. You Made Map-Loving Fun.

I cannot help but make one negative remark which is actually not to be deduced from the above review: the end-result suffers from 'England-centric-ness'; maybe there was too much fog over the Channel to see Europe? As this nice country is by no means the centre of the historical mapping science, even less of history, a more diverse 'territorial' map choice would have been appreciated. And eh ... since Frans Hogenberg was born and raised in Mechelen, it is not entirely correct to define him as a 'north German artist'.

Finally, the fixed UK book price is GBP 25.00, but you can find sharper prices at Amazon. As the price/quality ratio is outstanding, *The Map Book* is clearly recommended as a complementary general book to your own library or as a gift for your fellow history and map enthusiasts.

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Valletta Città Nuova - A Map History (1566 - 1600) by Albert Ganado

Malta: Publishers Enterprise Group (PEG) Ltd., 2003. 658 pp., 188 plates of which 62 in colour, plus 21 colour and b/w ill. in the text, cloth and dustjacket, 30 x 24 cm. MTL 35.00. ISBN 99909-0-346-8

To order: Publishers Enterprises Group (PEG) Ltd, P.E.G. Building, UB7 Industrial Estate, San Gwann SGN 09, Malta.
Tel +00 356 21 44 00 83, Fax +00 356 21 48 89 08, E-mail contact@peg.com.mt

Malta first came into the BIMCC spotlight when Dr Albert Ganado gave a most remarkable talk on maps of his island during our Third International Conference in Brussels (December 2002), *Mare Nostrum – Maps of the Mediterranean*. Just two and a half years later Malta joined the European Union.

Not many authors of carto-bibliographies can pride themselves in having their book prefaced by as eminent a map historian as David Woodward, who paid tribute to Ganado's outstanding contributions to the history of Malta, based on a lifetime of map collecting and historical research.

The history of Malta and its capital, Valletta, is inseparably linked to the fortunes of the Hospitaller Order of St. John of Jerusalem which, founded in 1099, ran a hospital for pilgrims to Jerusalem. But during the rather unsuccessful crusades of the following two centuries the Knights of St. John took on a military function which would expose them to fierce attacks by the Turks, resulting in progressive retreat from the Holy Land via Cyprus and Rhodes to Malta where they finally settled when, in 1530, Charles V had donated the island to the Order. Realising the strategic importance of the island and its sheltered harbour and under constant threat of repeated Turkish forays into the archipelago, the Maltese had begun fortifying the heights that dominate the harbour as early as 1524. The Hospitallers later started a programme of fortification vigorously advanced by Jean Parisot de la Valette who in 1557 became the 48th Grand Master of the Noble Order of the Knights of St. John of Jerusalem. They knew that a storm was brewing up.

The onslaught of the Turkish armada in 1565 was devastating. Sultan Soleyman the Magnificent had dispatched an estimated 40 000 men in hundreds of galleys from Constantinople, for what he thought would be a siege of no more than a few days. How-

ever, the heroic resistance of seven hundred Knights and 9 000 locals during four months inflicted a humiliating defeat upon the Turks, whose expansionist endeavours were finally stopped at the battle of Lepanto in 1571.

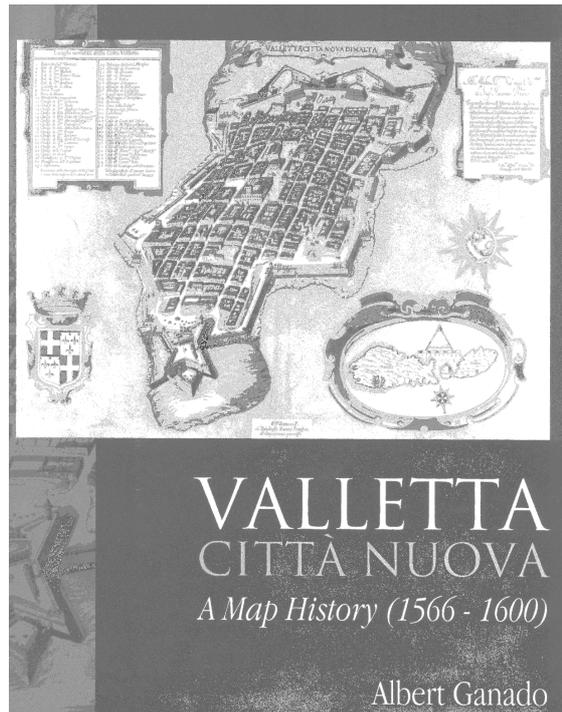
But the fortresses around the harbour were in ruins, and further Ottoman attacks were to be feared. Under the direction of Pope Pius IV, the Italian engineer Francesco Laparelli designed the first plans for a fortified city which in 1566 was officially founded under the name of Valletta. In 1980 UNESCO declared it a World Heritage.

It is against this historical background that Ganado unfolds the history of the mapping of Malta and of its capital. The book is divided into two parts.

Part I, *The History of the Maps*, gives a full account of the evolution of these maps until 1600, placed in the context of Malta's rôle as the *antemurale* (protective bastion) of the access to Sicily, a shield of protection of Italy, and Naples in particular, and as such the most important fortress of the whole of Christendom. Illustrated with portraits of the principal political actors of the time and with a host of historical documents including some frontispieces of town books and *isolarii*, this is a rare lesson in Euro-

pean history that records and analyzes a cardinal period of our common past, under the angle of cartography.

Part II, *Map Descriptions*, contains the listing of 92 maps of Malta, with its main harbour and its fortifications, ranging from an anonymous ms map entitled *Melita insula* (late 15th c.) to a 1684 copy of a 1602 map of Valletta by Francesco dell'Antella. Each entry consists of a bibliographical description of the map, an analysis of its contents, its origins and relation to other maps, as well as location and reference literature. Each map has its own full-page illustration in the





pages that follow.

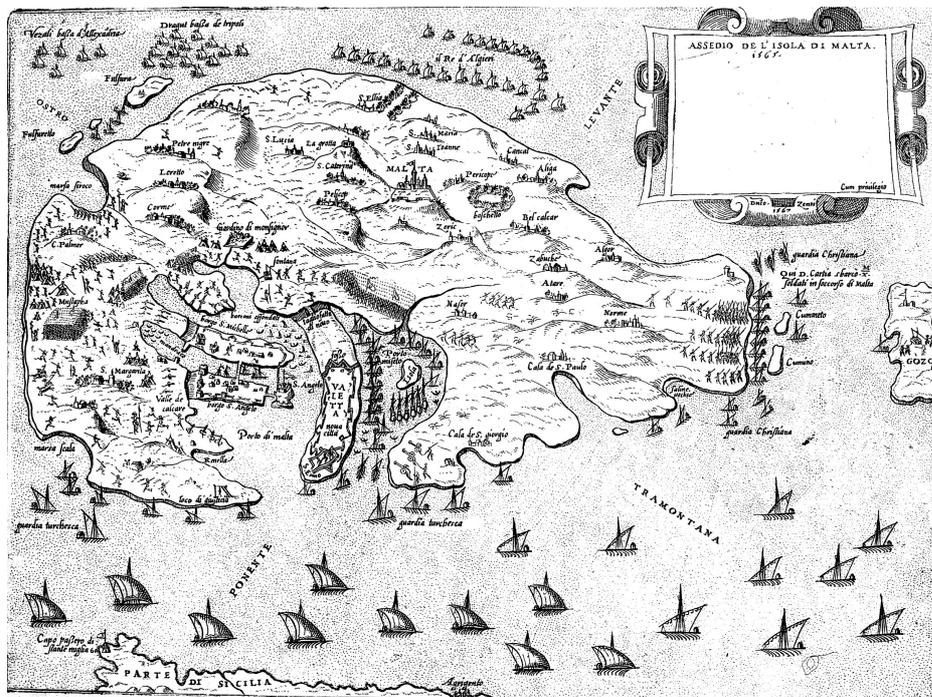
Malta's close ties with the imperial crown (Charles V, Philip II), the Kingdom of Naples and the Pope naturally led to the involvement of Italian and also French architects in the fortification projects. As the island's position in the central Mediterranean solicited great interest right across Europe, it is not surprising to see many familiar names of cartographers of the 16th century in this catalogue, such as Lafreri, Bertelli, Gastaldi, Battista Agnese, Forlani, Zenoi, Danti, Thevet, Braun & Hogenberg, van den Keere, plus a great number of lesser-known mapmakers whose work can be discovered here.

Whilst nearly half of the maps described come from the fabulous private collection of the author, the remainder attest to the extensive research Ganado has undertaken in the principal libraries across 15 European countries and in the U.S.A., not to mention a number of other private collections. A useful two-page calendar of events, perhaps a bit too succinct for a reader's cursory perusal, has a charming counter-

part in the form of an epilogue with quotations from the accounts of visitors to the island. Ten appendices offer original texts of circumstantial letters and reports on the preparations for, and the execution of, the fortifications of Valletta (three of which in translation), plus two later added plans of the town.

Whereas the mapping of another Mediterranean island, Cyprus, also a new member of the European Union since 2005, has been the subject of a wide range of cartobibliographical publications since many years, the remarkable work discussed here, although highly acclaimed in Malta, has apparently gone practically unnoticed in the international specialised press. May the columns of our modest journal be allowed to attempt redressing this situation in paying tribute to one of the most distinguished Maltese historians and collectors, Albert Ganado, who so admirably and competently documented his island's history on maps.

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Map 57, Domenico Zenoi, Siege Map, Venice 1567

Post scriptum

The author has asked me to announce the availability of off-prints of two of his previous publications which can be obtained from him at 1, M.A. Vassalli Street, Valletta VLT 13, Malta:

Italy's Sixteenth Century Contribution to the Cartography of Malta, in: Proceedings of the 9th International Conference on the History of Cartography (1981), Rome, 1985, pp. 221-232. EUR 7.00

Description of a Splendid Collection of 950 Maps and Views of the Sixteenth and Seventeenth Centuries at the Malta National Library, in: *The Malta Historical Society*, Proceedings of History Week (1992), Malta, 1994, pp. 137-228. EUR 21.00

Plus a recent publication: *The early Maltese cartographers Cassar, Saliba, Miriti, Gili*, in: *De Triremibus – Festschrift in Honour of Joseph Muscat*, PEG Ltd., Malta, 2005, pp. 227-264. Please contact the author for details. Note: Saliba's unique circular world map of 1582 was mentioned in the report of the Wolfenbüttel Exhibition (see p. 5). Ganado here describes the derivatives of this map produced by Cornelis de Jode, Paul de la Houve, Jean Messager, Pierre Mariette, Gerard Jollain, Jean Boisseau, Louis Bossevin, and Ambrose Schevenhuyse.



HISTORY OF CARTOGRAPHY (I)

The Struve meridian on the World Heritage List of UNESCO

On 17 July 2005, all the UNESCO delegates in Durban (South Africa) decided to award the honour of inscription on the World Heritage List to the Struve Geodetic Arc.

The geodetic measurements from Fuglenes near Hammerfest in Norway, over Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Belarus, Moldova and Ukraine to Staro-Nekrasovka, near Ismail on the Black Sea, over 2 821 km will be preserved for the future. Among its marks in bedded rock or border stones, 34 points were selected to remain landmarks to be used by future generations of surveyors, to measure the deformations of the Earth surface; they will probably use other techniques in 100 – 200 – 500 years from now, of which we have no idea today, just like Maupertuis when he measured near Tornea in 1737 could not have imagined the Doppler effects or a GPS-system, that is used today to calculate the coordinates of the points measured from satellites.

Before Struve

The history of meridian measurements and the basics of scientific cartography can be traced from the original books in a private collection.

The first book is from Gemma Frisius: *Libellus de locorum describendorum ratione nunque hunc visum*, Antwerpen - J. Grapheus, 4° of 1533⁽¹⁾; the well known printed version of intersection is based on the geometric axiom; if you know a baseline and 2 angles you can calculate the 3 remaining unknown elements in the triangle: 2 distances and the other angle. He used a 'platkloot' circumferentor or full circle with a magnetic compass oriented north and intersected from 2 elevated points of which he estimated the distances to a third point. Whatever the length of your baseline, the equivalent distance chosen for your drawing or plan will give you the scale of your map.

The mathematical model that Gemma Frisius presents is just an example and does not correspond with reality. But at the end of his short treatise he writes that, if you want to develop this over a whole province or country, you should use spherical trigonometry.

In the same year appeared Regiomontanus' treatise: *De Triangulis omnimodis libri quinque*, Nürnberg by Joannes Petreius, developing spherical trigonometry.

Willebrord Snel van Royen, better known as Snellius, published in 1617 *Erathostenes Batavus*⁽²⁾ in which he describes how he measured the first baseline for his meridian measurement on ice, between Leiden and Zoeterwoude in Brabant. The technique of measuring baselines on canals or

frozen rivers was repeated by Maupertuis on the Tornea River in 1736-37 in what has been called The Lapland expedition. In the Royal Library in Brussels we have a corrected version of the manuscript by Snellius over 24 pages when he corrected and enlarged his original first triangulation (KBR: MSS: 15.493) he concludes $1^\circ = 55\,021$ toises (of Paris).

The French *Académie des Sciences* was created by Colbert, Minister of Finances of Louis XIV, 'le Roi Soleil', in 1666. It sponsored the first meridian measurement by l'Abbé Picard (1620-1682); he measured 1° near Paris, between Sourdon (Amiens) and Malvoisin near La Ferté - Allais, to determine a value for the figure of the Earth. Picard's result of 1° of the meridian = 57 057 toises, was published in... (> p.18)

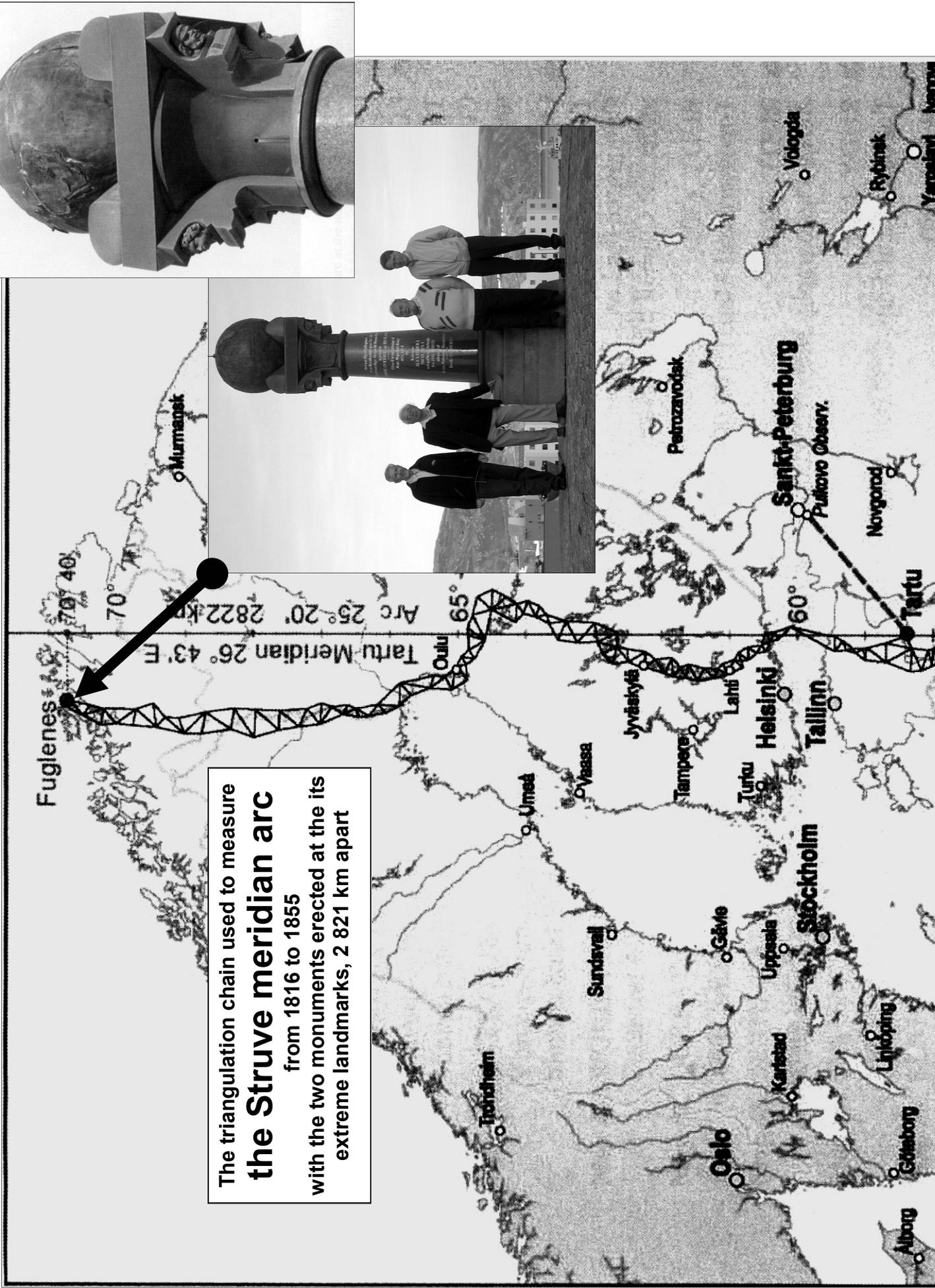


This well known engraving illustrates many of the publications of the *Académie des Sciences*, from the Royal Press in the great folio edition of books given by the King to important guests. This one comes from: *Recueil de plusieurs traités de Mathématiques*, 1676-77, gr.f°.

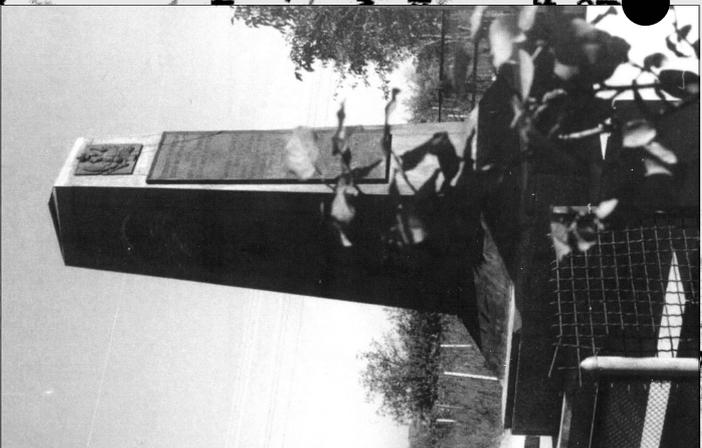
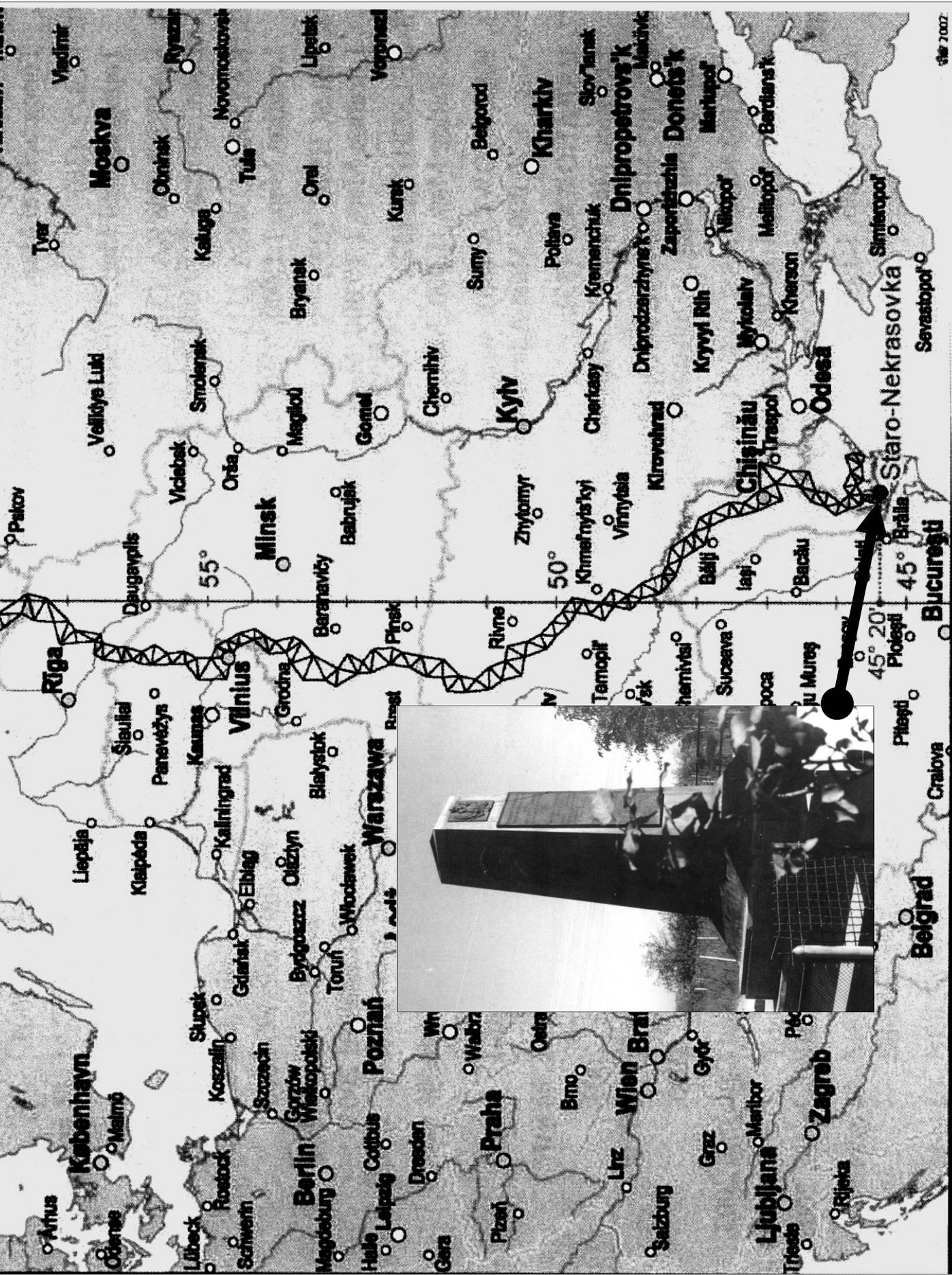
We see Colbert and Louis XIV in the central picture at the 'opening' of the Academy and, in the back of the picture, the Observatory of Paris under construction and the quadrant of l'Abbé Picard.

(1) see Van Ortoy, no 8, p. 168.

(2) see Schonaerts – Mosselmans – De Graeve: De Landt-Meeters van de 16^{de} eeuw tot Napoleon (KBR – Brussel).



The triangulation chain used to measure
the Struve meridian arc
 from 1816 to 1855
 with the two monuments erected at the its
 extreme landmarks, 2 821 km apart





Ouvrages de Mathématiques de Picard, La Haye – P. Gosse & Nearlme, 1731.

As Colbert wanted a precise map for France Picard adopted the *Toise du Châtelet* as a standard measure as many cities and provinces all had their own standards. Results were first published in: *La Mesure de la Terre*, 1671.

In 1672 Jean Richer went to Cayenne in French Guiana and his observations of the second pendulum were different from the Paris observations: *Observations Astronomiques et Physiques faites en l'île de Caienne*, par M. Richer, La Haye, 1731.

Picard is shown with his quadrant designed with optics to improve the accuracy from: *Mémoires de l'Académie des Sciences*. Picard was not the first to measure a degree of a Meridian in France as Jean François Fernel (1497-1558) had published: *Cosmotheoria Libris due Complexa*, Paris – Simon de Coliver in 1528, which resulted in $1^\circ = 56\ 746\ 2/3$ toises = 24 514 560 *passus geometricus*. This result, and the publication of Newton's *Philosophiae Naturalis Principia*, in London in 1687, by Joseph Straeter, declaring the earth a flattened globe at the poles in a proportion of 1:229 to 1:230 (in *Suite des mesures de l'Académie Royale des Sciences Année, 1718*), contradicted the meridian measurements by Cassini I (*Traité de la Grandeur et de la Figure de la Terre*) from Paris to Collioure whose results calculated by Eisenschmidt proposed a globe elongated at the poles. The flattening of the earth was confirmed by the extension of the arc to Dunkirk in the north of France, and the measure of a great circle from St-Malo to Strasbourg with similar results between 1733-1734: *Histoire de l'Académie Royale des Sciences Année 1726*, published in 1739 (p. 103-104).

All these results did not coincide and after long discussions, two memoires were presented to the Academy by Bouguer: *De la manière de déterminer la Figure de la Terre, par la mesure des degrés de latitude et de longitude* (p. 443-468), publiés dans *Histoires de l'Académie des Sciences, mémoires de mathématique et de physique pour l'année 1736*, Paris, Imprimerie Royale, 1739 and by Maupertuis: *Sur la figure de la terre* (p. 302-312), *Histoire de l'Académie des Sciences, 1736*, Paris, Imprimerie Royale, 1739.

The Academy finally decided to send two expeditions: one to the Equator in Peru and one near the North Pole: the Lapland expedition; another expedition, in the southern part of Africa (the Cape) was covered in my article 'The Belgian contribution to the measurement of the 30th meridian arc in Africa' in BIMCC Newsletter No 23 (September 2005).

The Peru expedition

Maupertuis, Clairaut, Camus and Le Monnier remeasured the French arc of Picard and published the result as the *Degré du Méridien entre Paris et Amiens*, Paris, by G. Meslin, J.B. Coignard and H.L. Guerin, in 1740.

Four members of the Academy joined the Peru expedition:

- Louis Godin (1704-1760): astronomer, was the leader.
- Pierre Bouguer (1698-1758)
- Charles de La Condamine (1704-1774)
- and the biologist Joseph de Jussieu (1704-1779).

The Spanish king sent two naval officers :

- Antonio de Ulloa (1716-1795)
- Jorge Juan (1713-1773)

They started in La Rochelle on 16 May 1735 and came back after a long and difficult expedition in the Andes of which there was a map showing elevations and the triangulation between the mountaintops generally higher than 5 000 m (the Chimborazo is 5 890 m high) and included some of the famous volcanoes: Cotopaxi, Chimborazo and Pichincha ...

Near Quito, they developed a baseline: 6 272 toises 4 feet and 2 inches. Godin and Bouguer re-measured the baseline 3" longer (ca 7.5 cm/12 225 m). The Godin Manuscript describing the monument to be erected next to the baseline came up for sale recently; in 2005 the International Institution for the History of Science & Measurement (I.I.H.S&M) tried to avoid the destruction of this monument with the development of the planned airport.

The expedition members had serious disputes and it took them until 1739 to achieve their measurements. Godin with the two Spanish officers and La Condamine worked with Bouguer and the difference between the final baseline measured and the one calculated was +/- 3 feet for +/- 160 000 toises which was a very good result, considering the angle measuring instruments they had.

They worked on the astronomical observations until 1743 and returned to France by different ways.

Bouguer arrived first a couple of months before de La Condamine who travelled through the Amazon and Godin who stayed much longer; he returned in 1751, de Jussieu in 1771, that is 36 years later. Bouguer presented to the Academy his results: $1^\circ = 56\ 753$ toises (*La Figure de la Terre déterminée par Mess. Bouguer et de La Condamine ... envoyés par ordre du Roy au Pérou ...* Paris, Jombert, 1749).

The Spanish officers also published their results: *Observatione Astronomicas y Physicas ... se deduce La Figura y Magnetico de la Terra y se Optica a la*

BIMCC's Map of the Season

BIMCC Members are invited to contribute and send to the editor proposals to present, on the central page of this Newsletter, a map which they particularly like and which they would like to share with other Members; it may be a map which has an interesting history or a curious anecdote attached to it, it may be the centre piece of your collection, it may be a map which you would like to bring to the attention of the cartographic community, etc.

The Editor



Navigacion..., Madrid, Juan de Zunigu, 1748, 2 vol., 4° and *Relacion Historica del Viaje a la America Meridional...*, Madrid, Antonio Marin, 1748, 2 vol, 4°. Both books exist as reprints available in the Museo Naval of Madrid.

Near Quito they left a commemoration plaque of which I have a photo, which has also been published in Jim Smith's book *From Plane to Spheroid* by Landmark Enterprises (U.S.A., 1986, p.158).

We have kept this part very short as the Lapland expedition is closer by and linked to the Struve meridian and the Peru expedition has been told many times and published by various authors and recently in French by Mrs Florence Trystram in *Le Procès des Etoiles*, Paris, Seghers, 1979 and by myself in a colloquium in Toulouse in 2001.

The Lapland expedition

The leader of the expedition to the north was Pierre Louis Moreau de Maupertuis (1698-1759), member of the Royal Society in 1728, member of the French *Académie des Sciences* in 1731, who had remeasured the 1° meridian of Picard in 1730. Members of the expedition included:

- Alexis Claude Clairaut (1713-1765), a mathematical genius, who made the calculations of the expedition;
- Anders Celsius (1701-1744), secretary of the Uppsala Scientific Society and professor of Astronomy, to be credited with the 0-100° 'thermometer';
- R.P. Reginald Outhier (1694-1774), a clergyman in Bayeux, cartographer and astronomer;
- Pierre Charles Le Monnier (1715-1799), member of the French *Académie des Sciences*, who became Royal Astronomer and, at the age of 20, *Adjoint-Géomètre* to the Academy;
- Charles Etienne Louis Camus (1699-1768), a clockmaker, member of the *Académie des Sciences*, who had recomputed the Picard meridian in 1730 with Maupertuis;
- Anders Hellant of Pello (1717-1789), the translator.

Jim Smith has described the voyage from Dunkirk to Tornea and the dining with the King of Sweden (as Finland was still part of Sweden in that period).

Most of the observations along the Tornea River are today in Finland. The scientists measured a baseline on the ice, like Snellius did more than two centuries before on the Dutch canals. The temperature was 15° R(éaumur). The cold was so harsh that Celsius wrote: 'the cognac was freezing'. They used 5 toise rods put one against the other on the snow. The baseline was 7 406 toises 5 feet and 4 inches, measured twice with a difference of 4 inches after controls; the rods had changed shape; they agreed on 7 406,861 toises. The rods were compared with the *Toise du Nord* (by Langlois).

In his *Journal d'un Voyage au Nord en 1736 et 1737...*, Paris, Outhier published the first development of skis and their application for transport.

The 6 foot Graham sector was used for the astronomical observations in Kittis in October and later in Tornea in November. They also made pendulum

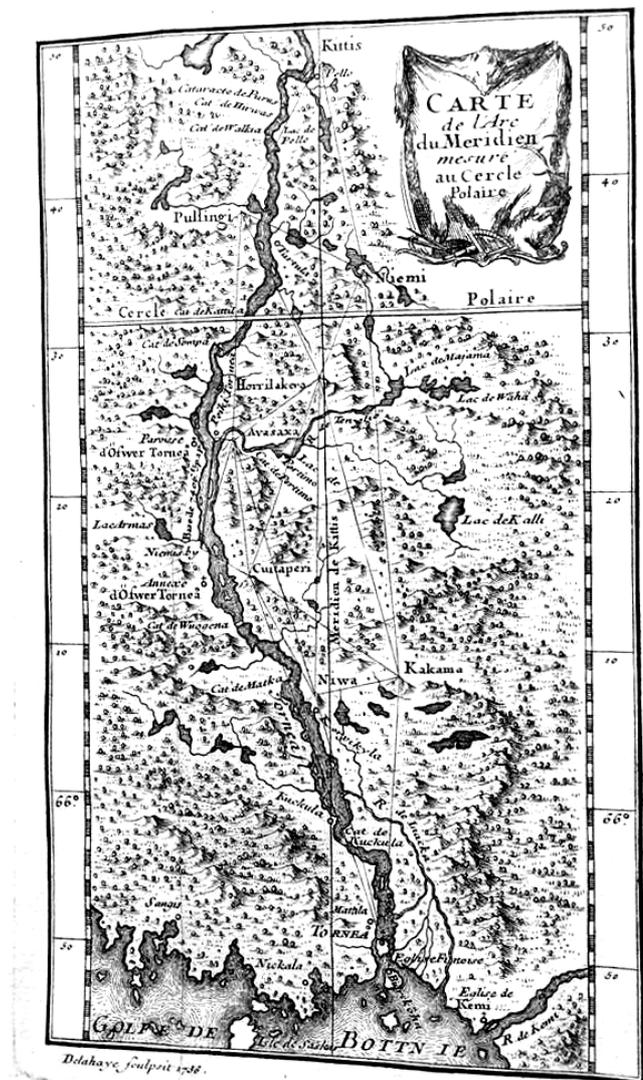
observations, and by mid-1737 they could resume their journey and return home.

Their result: 1° = 57 438 toises at 66°20' North, and the pendulum: 441,17 lines, compared to 440,57 lignes de Paris at the Paris Observatory.

Conclusion: The earth is flattened at the pole.

Maupertuis published his results after having informed Louis XV in Versailles on 21 August 1738, in *La Figure de la Terre déterminée par les observations de Messieurs Maupertuis, Clairaut, Camus, Le Monnier de l'Académie des Sciences et de l'abbé Outhier correspondant de la même académie. Accompagné de Mr Celsius, professeur d'Astronomie à Uppsala, faites sur ordre du Roy au cercle polaire*, by de Maupertuis, Paris, Imprimerie Royale, 1738 in 8°, and published in English the same year in London for T. Cox at the Royal Exchange.

This measurement of Maupertuis in Lapland was the first operation in Scandinavia and some of the measured points have served later for Svanberg and Struve, as we will see further on.



In 1743 Clairaut published the *Théorie de la Figure de la Terre – Tirée des Principes de l'Hydrostatique...* Paris, chez Durand, which he had presented to the *Académie* on 5 September 1742.



For calculations, logarithm tables have been used. This had been a major improvement since Baron Napier wrote his *Mirifici Logarithmorum Canonis descriptio, eiusque usus ...*, Edinburgh, 1614, and in 1617 his *Rabdologiae*... where he developed the Napier rods. The first French edition of *The Logarithm tables*... of Briggs in 1628, give the values with 10 decimals after the unit. At the end of the 17th century Michael Taylor edited his tables of logarithms for all numbers from 1 to 101 000 and the sines and tangents tables to every second of arc, in London in 1792.

From the different experiences of the 18th century, Jean Baptiste Delambre wrote: *Méthodes Analytiques pour la Détermination d'un Arc de Méridien*... in Paris in 1791 which was the most advanced technology at the time based on the meridian measurements from Dunkirk to Barcelone, commented on by Legendre in the same work.

In other parts of the world, meridians were measured: India, Mason Dixon Line, Riccioli, Boscovitch.

After the controversy in the French Academy they wanted to know what happened in the Southern hemisphere as a larger part of the world was not covered by land but by the sea. L'abbé Nicolas de la Caille had worked on the southern part of the French meridian and when he later stayed in Capetown he measured 1° of a meridian in 1752: 1° = 57 037 toises (see article in BIMCC Newsletter No 23).

In the north, the Swedish Academy in 1801–1803 asked Svanberg to develop the meridian arc measurement and he remeasured a number of points, first measured three quarters of century earlier by Maupertuis, and extended the measurements north of Pello to Kerrogupakka and south to islands in the Bothnian Sea, and published *Expédition des Opérations faites en Laponie pour la Détermination d'un Arc de Méridien en 1801-1802-1803*... by O.F. Verborn, Svanberg, Holmquist and Palander, Stockholm, 1805.

In short this is what happened before Friedrich Georg Wilhelm Struve started his measurements of the meridian running from Fuglenes near Hammerfest at 70°40'12"N in Norway to Staro Nekrasovka at 45°19'54"N in Ukraine near Ismail = +/- 2 821 km.

Who was involved with the Struve Geodetic Arc?

Friedrich Georg Wilhelm Struve (Altona 15.04.1793 – Pulkova 23.11.1864) was the astronomer in charge of the measurements of the largest arc of meridian from Hammerfest to Ismail. He worked as an astronomer in Dorpat, now called Tartu in Estonia, and had 18 children. He, with others, measured from 1816 to 1855 the northern part of the meridian for 9°30'. He created the Pulkova Astronomical Observatory and its library. He was a member of many scientific societies.

Carl F. Tenner (Narva 22.06.1783 – Warsaw 28.12.1859), a General of the Russian Tsar after the Napoleonic Wars, was head of the Russian triangulation service and measured 11°10' of the southern part of the arc.

Nils H. Selander (Vilyggera 20.03.1804 – Stockholm 18.06.1870), director of the Stockholm Observatory, measured 3°13' from Tornea to Bäljatz-vaara. He co-signed the final report with Christopher Hansteen, D. Lindhagen and Struve.

Christopher Hansteen (Oslo 26.09.1784 – 15.04.1873), director of the Oslo Observatory and chief of geographic services in Norway, measured the most northern part ending at Fuglenes.

Daniel Georg Lindhagen (Askeby 07.12.1819 – 05.05.1906), director of Pulkova Observatory after Struve, presented a detailed report of the astronomical observations in the north.

Together they presented this 2 821 km long meridian in a famous (and rare) book: *Arc du Méridien de 25°20' entre le Danube et la Mer Glaciale mesuré depuis 1816 jusqu'en 1855, sous la direction de C. Tenner, Ch. Hansteen, N.H. Selander et F.G.W. Struve, ouvrage composé sur les différents matériaux et rédigé par F.G.W. Struve, publié par l'Académie des Sciences de St-Petersburg, 1857* (t. II) — 1860 (t. I); gr. f°, 970 p + 47 plates. This work was dedicated to his Majesty Alexandre II, Tsar of Russia and Charles XV, King of Norway and Sweden.

The two countries had collaborated and financed this daunting task which took 40 years of measuring and two more years of calculations, plus three to finalise the synthesis for the first volume.

While Struve had started measuring 1° of meridian in northern Livonia, he heard that Tenner was measuring a meridian in the southern part of Livonia, so they joined forces and coordinated the campaign having persuaded their respective kings of the utility for mankind of the enormous task.

The principles are well known: start with measuring the length of a baseline, you develop your triangle from this baseline measuring the two angles; each side of the triangle will serve as a baseline for the next triangle. Finally when you have developed a vast number of triangles you will control the result by a new baseline before going further. In total seven baselines were measured generally of 10 to 15 km, with an accuracy of 1 to 5 cm (1 mm per km accuracy for Struve, 2 to 3 mm per km for Tenner). Although the decimal system and the metre had been adopted, they both used different units, the French toise by Struve and the *sajen* by Tenner.

To finally know how many degrees of the meridian have been measured, you have to take accurate astronomical observations particularly of each end and then start computing the results.

The northern part was 710 000 toises, the southern part 5 % more = 740 000 toises. From 13 astronomical observations the latitudes and azimuth were calculated and the development of 265 main triangles out of 330.

The final result: 1 447 787 toises = 2 821 km 853m 711 mm or 25°20'08"29 and a flattening at the poles of 1:299.73 (similar to Newton's *Principia*).

The meridian going through Tartu Observatory has been used, actually 26°43'23"04 east of Greenwich which became the prime meridian in 1874.



The instruments used

The aim was to use the best available equipment and we know that Struve ordered especially instruments from Reichenbach in Munich (1820). The horizontal circle has a 13-inch diameter and the vertical one 11-inch diameter, the angles are divided in 5 min. and reading with a vernier scale 4 sec. and by estimation 1 sec. This instrument has been recovered recently and is preserved in Norway.



J. Smith and J. De Graeve checking Struve geodetic instrument

Tenner used a repetition circle by Baumann of Stuttgart: diameter 13 inches, vernier 10 sec; from 1818 a Troughton repetition circle: diameter 14,3 inches and after 1837 a repetition theodolite by Reichenbach of diameter 12 inches, vernier 4 sec ; later an astronomical theodolite by Ertel: diameter 8 inches, since 1836 an universal instrument of Ertel and finally an Ertel theodolite of diameter 12 inches after 1844.

The baselines were measured with rods of 4 toises each standardised by Fortin and Arago, against the Peru Toise in 1821. The Tenner unit was of Russian origin and of a local length: 2 sajenes = 14 English feet. It differed from the Struve base measurement equivalent but no thermometers were used in Russia. The bars were aligned and traced horizontally, comparators were used to determine the separation of each successive pair of rods.

The complexity of calculations and controls are described in some 900 pages and are a fascination for people who enjoy higher mathematics and geodesy. But for the average person this would be extraordinarily boring.

What is so fascinating about this meridian?

Why is it classified as a World Heritage Monument by UNESCO?

To answer these simple questions I will just take some more of your patience.

The shape and size of the earth is important for its applications in physics, aeronautics, space sciences and more down to earth applications in cartography, geodesy, mapping, navigation, trade and travel.

This was the result of three centuries of improvement of surveying techniques, equipment and theory.

It has been the aim of the calculations of Bessel, Gauss and Airy to know the spheroid shape form of our planet.

This was a transborder scientific achievement between Russia and Scandinavia and the framework of triangles was the first geodetic network.

Today it covers ten countries and the preparation of this inscription has increased cooperation between the ten countries at the diplomatic level and technically on geodetic topics as well. It has remained the largest operation until 1954 when the Struve arc was finally connected to the African arc, which reaches Buffelfontein in South Africa.

It still forms a basic network for cartography in the countries concerned and many of its points are still used as national geodetic points.

The preservation of the points will allow for later research and control of deformation of the earth surface.

The definition of the length of the metre was defined as a fraction of the meridian measurement and defined as 1:10 000 000 part of the quarter of the meridian of the earth through the poles.

This has been the first transborder submission to UNESCO involving more than two countries (e.g. Santiago de Compostela involves two), all countries concerned are members of UNESCO, and all having at least one point of importance (Moldova) in the Struve Geodetic Arc.

From the original 265 points and 65 subsidiary points a selection of 34 points has been made by the ten concerned countries; the points were found in the field and it was verified that they were still in their original position. Sometimes a hole in bedded rock, some in masonry or stone construction in the field, other ones are church towers or monuments (Fuglenes and Staro-Nekrasovka); covering baselines, astronomical observation points, joined between north and south (Jacobstadt and Hogland), they have been checked by modern satellite measurements and found within 1 cm accuracy.

Some of the sites Maupertuis measured in 1736 were used by Svanberg in the early 1800 and later by Struve and are still in the geodetic framework for Sweden, Finland and Norway. All the selected points are accessible and protected for the future to allow later generations to use for scientific purposes.

We ⁽³⁾ are proud today to see the Struve Geodetic Arc inscribed on the World Heritage List by UNESCO, as the first scientific surveying structure ever to figure on the list.

Our aim is to work together with eleven African countries to enlarge this inscription over the 30th Meridian of Africa and the connection section between that and the Struve Arc in Central Europe. We have already unveiled plaques near Cairo in Egypt in 2005, and in Buffelfontein in South-Africa in 2004 (this was arranged by our honorary secretary Jim Smith). We hope that the collaboration of the African and European countries can contribute to insure some stability and cooperation between those countries.

Jan De Graeve

(3) The International Institution for the History of Science & Measurement (I.I.H.S&M) is a permanent institution within F.I.G. (Fédération Internationale des Géomètres, founded in 1878) of which Jim Smith is honorary secretary and the author is the honorary director.



Those brilliant but forgotten scientists of the 19th century

(Third and last part)



In order to understand the nineteenth century cartography and the achievements of its eminent scientists (both civilians and military men), we must refer to the foundation of Belgium as an independent state in 1830. At that time, the need to organize the newly-founded state generated a lot of political demands both on national and international level.

We will describe here the work of a few scientists who were exceptional beings because they devoted themselves to public service, science and also to some humanist (or even utopian) ideals. They belonged both to the civilian society and to the military world and most of them were members of the Royal Academy. Most of them are forgotten now, except a few of them such as Adolphe Quetelet (whose biography appeared in BIMCC Newsletter No 24; other biographies appeared in Newsletter No 25; this is the last series, from the presentation at the BIMCC Conference in December 2005). All of them, directly or indirectly, advanced the status of cartography in Belgium.

Jean-Charles Houzeau de Lehaie (1820-1888)



J.C. Houzeau was an autodidact, who was greatly interested in various aspects of earth sciences and social sciences.

In 1844, he began to work at the Brussels Observatory (under director A. Quetelet) together with Liagre among other scientists. In 1846, he was appointed assistant-astronomer at the Royal Observatory, where he would be very active.

Unfortunately, on 6 April 1849, he was removed from office because he had attended a political banquet (he was a republican and a supporter of Fourier's presocialist ideas).

From 1849 to 1853, he published a lot of remarkable scientific papers on astronomy, geology, geography and history, geophysics, climatology. In 1854, he published a book that would mark an epoch: in that book he presented the geography of Belgium from a historical and globe-descriptive perspective (*“Essai d'une géographie physique de la Belgique au point de vue de l'histoire et de la description du globe”*).

From 1854 to 1857, he worked at the *Dépôt de la Guerre*, to Nerenburger's satisfaction, mainly in the field of position astronomy. He calculated the absolute and orientation geographical coordinates for measuring the bases of the geodetic triangulation network.

In a paper to the Royal Academy of Belgium, general Nerenburger - who was then a very appreciated member of the Academy - wrote this about Houzeau: 'It is for me both a duty and a pleasure to seize this first opportunity to acknowledge publicly the eminent services rendered so far by our fellow-member to Belgian geodesy, and to thank him for the care, patience and devotion he has showed in the execution of his hard task'.

In 1857, however, the astronomic observations he was performing for the *Dépôt de la Guerre* were interrupted abruptly. He then emigrated to the United States, Mexico and the Antilles. In 1876, he came back to Belgium at the request of many Academicians and of King Léopold II. He was appointed director of the Observatory in Uccle, where he was mainly in charge of the project relating to the construction of a new observatory. He would leave this office in 1883. He became famous for the huge work *Bibliographie générale de l'astronomie* (a co-production with Lancaster).

J.C. Houzeau, who supported Humboldt's theories, has promoted a new discipline: geography.



Jean-Baptiste Liagre (1815-1891)



As already said, Jean-Baptiste Liagre joined the newly-founded Military Academy in 1834 and, when he graduated four years later, he was the first of his year.

In March 1841, Quetelet appointed Liagre (who was one of his former students) as assistant for his astronomy and geodesy classes. So, Liagre became (before Houzeau) a temporary assistant astronomer at the Observatory.

Liagre distinguished himself by his exceptional intellectual qualities, namely in the field of mathematics. He was, for instance, a specialist in the calculus of probability and in the theory of errors (together with Nerenburger, he will apply this theory during the establishment of the Belgian geodetic network). His dissertations on the 'measuring of time, latitude and azimuth with the help of the double passages of a star through various verticals' were awarded a prize by the Royal Academy. In 1870, he was appointed commander of that Academy after Nerenburger's death. In 1874, he was promoted to general and, after Quetelet's death, he was appointed Permanent Secretary of the Royal Academy. In 1879, he was even Minister of War, but the next year he resigned because of the political controversy about the strategy to be adopted for the bridges and forts of the river Meuse.

J.B. Liagre chaired a lot of commissions in the field of mathematics and geography. He was a founding member of the *Société belge de géographie* and its first chairman in 1876 (Houzeau would be its second chairman). Liagre and Houzeau were good friends. Houzeau's numerous letters to 'his friend Liagre' (in the *Fonds Liagre* at the Academy) show the exceptional intellectual and moral complicity between both men. In the above-mentioned fields, Liagre was undoubtedly a real 'Kapellmeister', because of his energy, his personal organization, and his boundless dedication to science, to human progress and to the nation.

Emile Adan (1830-1882)



Emile Adan joined the Military Academy in 1847. In 1849, he was appointed to the rank of second-lieutenant at the *Ecole d'application* and in 1852 he was admitted to the staff. During his stay at the Military Academy, he was always the brightest student in his class. It should be noted that his year ('promotion') --- the thirteenth since the foundation of the Military Academy --- provided two members to the Academy, Adan and Henrard.

In 1854, he became Houzeau's assistant and was permanently attached to the geodetic section of the *Dépôt de la Guerre*. In 1859 he was assistant at the Military Academy for the (applied) descriptive geometry class. In 1863 he became assistant-professor for the astronomy and geodesy classes. In 1864 he became professor for the probability, map and gnomonic construction classes. In 1867 he took over Quetelet's astronomy and geodesy classes.

In 1870 he lectured topography, geodesy and probability, as well as physical, political and military geography at the *Ecole de guerre*.

In 1875 he was appointed director of the *Dépôt de la Guerre*. End 1879, he was appointed commander of the *Ecole de Guerre*, but in July 1880 he resigned from this office. He was also a member of the Academy. In 1878 he became a member of the Commission in charge of the geologic map of Belgium. He helped the International African Association. He trained the young officers who would serve in Africa in the field of astronomy, geodesy and cartography. In 1880, he was promoted to colonel. He died prematurely in 1882.



Other personalities have developed scientific activities. We cannot describe all of them, but we will quote a few.

Augustin Delporte (1844-1891)

He was a captain-commander, Doctor of Mathematics



and Physics who graduated from the Brussels University. His life is an example of perseverance and self-abnegation. He devoted his entire life to his scientific ideal and his ardent patriotism. He died in 1891 (he was 47 years old) in Congo, during the first scientific and geodetic mission on behalf of the Academy of Science.

Alexis Brialmont (1821-1903)



He was a general, a brilliant strategist (better than Vauban, according to some military people) and a remarkable scientist. He was even twice chairman of the Academy. He worked a lot with general Liagre and, like many scientists of that time, he defended Houzeau's interests.

Joseph-Marie De Tilly (1837-1906)

He was a general, the most original mathematician of the 19th century (according to some people), Commander of the Military Academy and a member of the Academy. Like Brialmont, Liagre and Nerenburger, he belonged to the elite of distinguished people who promoted a high-level scientific education. Because he had refused to modify some very demanding lectures and exams, in 1899 the Minister of War dismissed him as commander and director of studies at the Military Academy. Paul Mansion wrote this about him: 'All the people who knew him intimately held De Tilly in high esteem and liked him very much because of his dignified life, his noble character, his sense of duty and his true friendship'.



Let us also quote some civilian members of the Academy who were outstanding in their time: the geologists d'Omalius d'Halloy, Dumont, Briart and Jules Cornet; the physicists Plateau and Melsens; the chemist Stas; the mathematicians Meyer, Verhulst and Schmit, etc.

Bernard Jouret
bjou@ngi.be



BIMCC Programme for 2006

Friday 13 October 2006, 14.30

BIMCC Autumn Excursion:

Excursion to the Map Room of the University Library in Utrecht

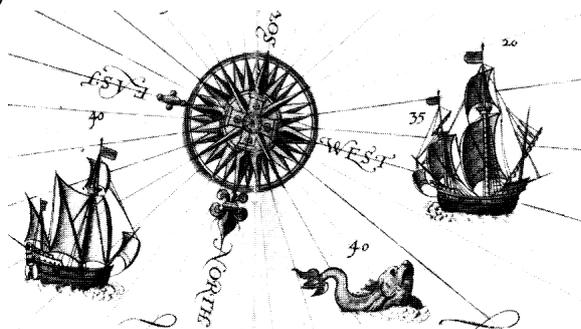
This year's excursion will take us on Friday 13 October to the Map Room of the University Library in Utrecht, Heidelberglaan 3, 3584 CS Utrecht.

Dr Marco van Egmond, the newly appointed Map Curator, will guide us through a display of selected maps from their important collection, and this will be followed by a presentation of the Explokart Research Programme by Paula van Gestel, the programme coordinator.

The tour will be conducted in English.

The visit will be limited to 20 participants, and preference will be given to paid-up BIMCC Members. Non-Members may be admitted if places remain available after 1 October. All registrations will be dealt with on a first-come-first-served basis, and those accepted will be acknowledged by the Secretary.

To register send the enclosed form to the BIMCC Secretary before 1 October 2006.



Saturday 9 December 2006, 9.30

5th International BIMCC Conference

Charting the Seas -

Seven centuries of maritime cartography

The following Speakers have agreed to present a paper:

- Prof. Corradino Astengo, University of Genova: *Portolan charts and 'the art of navigation' - Fourteenth to sixteenth century*
- Monique Pelletier, Paris: *Cosmography and sea charts in the early sixteenth century: Martin Waldseemüller's case*
- Prof Günter Schilder, University of Utrecht: *Early Dutch maritime cartography (1532-1630)*
- Dr Dirk de Vries, Oostburg (The Netherlands): *The manuscript charts by the Van Keulen firm: a special mapcorpus*
- Dr Andrew Cook, India Office Records, British Library, London: *British maritime charting of the East Indies and the creation of the Admiralty Hydrographic Office*
- Dr Jacqueline Carpine-Lancre, Vice-President of the Oceanographic Commission, Monaco: *Sea Charts - the third dimension: from the beginnings to the birth of modern bathymetric charts.*

The Conference Chairman will be Hans Kok, IMCoS Chairman.

As usual, the event will take place at the Collège Saint Michel, Boulevard Saint Michel 24, 1040 Brussels. (Metro: Montgomery — Private parking available).

Admission is free for BIMCC Members; non-members pay EUR 10.00.

Participation in Speakers' Lunch at own expenses (about EUR 30.00).

To register send the enclosed form to the BIMCC Secretary before 25 November 2006.

**To be informed or reminded about BIMCC events
send your e-mail address to info@bimcc.org**



News

A fountain with a globe

From a correspondent in the eastern part of Belgium we received this photograph of an interesting fountain in the small town of Verviers. Situated on the corner of Rue du Gymnase and La Place du Martyr, it was inaugurated in 2003 on the occasion of the environmental summit in Brasil and has been named *RIO + 10*. It is two metres high, weighs five tons, and was made by a German firm which apparently keeps the structural mechanics a secret: floating in a water basin of 1 000 litres and



Photo by A. Simon

linked to an electrical pump, it may be turned in all directions at a finger's touch. The globe was made of the famous blue limestone of Sprimont, the pride of the region's quarries nearby.

Petermann's Atlas Party

As announced in our last Newsletter, the first 'International Meeting of amateurs and collectors of atlases published as of 1800' was organized, as planned, by Jürgen Espenhorst on 1 May in Hagen (Germany). Readers may remember the review in Newsletter No. 18 of Jürgen Espenhorst's reference work *Petermann's Planet – a Guide to German Handatlases and their siblings throughout the World, 1800-1950*. The idea of this gathering was to allow collectors to exchange atlases from this period, or to offer them for sale.

Thirty amateurs from Germany, Belgium, France and The Netherlands met around numerous stands. Mr Espenhorst's first presentation was on the restoration of atlases. This led to an animated discussion and the exchange of many ideas and addresses. His second talk was on the Austrian atlas publisher Freytag & Berndt, a subject that will figure prominently in Espenhorst's Vol. II of *Petermann's Planet*, due to be published shortly. Prof. J. Neumann of Karlsruhe University then presented his project of a book on German School Atlases published since 1700, due to come out in 2008.

For photographs and atlas listings visit www.handatlas.de. For further details, also about a future second Atlas Party, contact Mr Jürgen Espenhorst, Pangaea Verlag, Villigster Strasse 32, D-58238 Schwerte, Tel +49 2304 72284, Fax +49 2304 78010. pangaea@cityweb.de.

(Information extracted from a report by Rob Segers).

Events

The Rocky Mountain Map Society Antique Map Fair,

Denver, USA, 15-16 September 2006

Denver Public Library, 13th & Broadway, Denver.
Open Friday 17:00 - 20:00 and Saturday 9:00 - 17:00.
http://lamar.colostate.edu/~mcole/map_fair_5.html

Conference on Euro-india Textile Trade and Cartography of India (16th -18th c.)

Lisbon, Portugal, 15-16 September 2006

Programme includes first European maps and portulans of India, 15th-16th c. (Portuguese expert), VOC-cartography of India, 17th-18th c. (Dr. K. Zandvliet), English mapping of India, 17th - 18th c. (Dr. A. Cook), The French maps of India, 17th-18th c. (Dr. J-M Lafont), French collections on cartography of India, 17th-18th c. (CAOM), Travel journals as source for the Eur-Indian textile trade and cartography, 17th-18th c. (Dr. S. DeWilde), and Restoration of paper, maps and books, 17th-18th c. (Dr. S. Ipert).

At the Instituto dos Archivos Nacionais Torre Do Tombo,

Lisbon, Portugal.

<http://eurindia.pc.unicatt.it/english/lisboa2006/lisboa2006.htm>

13. Kartographiehistorisches Colloquium und 9. Dresdner Sommerschule für Kartographie (13th Colloquium on History of Cartography and 9th Dresden Summer School for Cartography)

Dresden, Germany, 20-23 September 2006

Subjects addressed (all in German) first cover local and regional cartography, then spread geographically to include eastern Europe, finally reaching as far as Mount Everest, Egypt, and Venezuela. The parallel poster session is animated by nine presenters, and a very varied programme of visits to map collections in and around the city is on offer.

At *Blockhaus*, Neustädter Markt 19, D-01097 Dresden.

To register, and for any further information, contact Dr Markus Heinz, Staatsbibliothek zu Berlin - PK, Potsdamer Str. 33, D-10785 Berlin, Tel+49 30 266 27 25 Fax +49 30 266 30 10, markus.heinz@sbb.spk-berlin.de, <http://www.stub.unibe.ch/dach/>

Note: the events are listed in chronological order (in case of a series of events, according to the first event in the series).



Discovering North Britain: Early Maps of Scotland

Edinburgh, Scotland, 21 September 2006

Peter Barber, Head of Map Collections at the British Library, outlines some of the maps in their collection that illustrate the earliest stages of this English discovery of Scotland.

At 19:00, in the National Library of Scotland, George IV Bridge. Contact events@nls.uk or 0131 623 3845 if you wish to attend - advance booking is essential. <http://www.nls.uk/>

Washington Map Society Meetings

The L'Enfant Plan: Idea to Landscape.

21 September 2006

By Don Hawkins, architect and expert in eighteenth century geography of Washington. The thesis of this illustrated lecture is that the Federal City of Washington was designed by Pierre L'Enfant, not adapted from earlier city and garden designs by others.

Taking You There: Using original maps & charts to tell a tale

19 October 2006

By maritime writer and lecturer Robert N. Macomber

The Case of E. Forbes Smiley

16 November 2006

By Ms. Kim Martineau, staff reporter for the *Hartford Courant*

Maps in my pre-political life

14 December 2006

By Anthony A. Williams, Mayor, the City of Washington DC

At 19:00. Reading Room, Geography and Map Division, B level, Library of Congress, Madison Building, 101 Independence Avenue, S.E., Washington, D.C., USA.

For additional information, contact William Stanley, tel. +1 301 953 7523 or Dennis Gurtz (dmg01@comcast.net) <http://home.earthlink.net/~docktor/wms-meet.htm>

Seminar on ancient geography 'La cartografia degli antichi e dei moderni' (The cartography of ancients and moderns),

Perugia, Italy, 29-30 September 2006

At the Università degli Studi di Perugia, Facoltà di Lettere e Filosofia, Dipartimento di Scienze Storiche
Additional information from the organiser, Prof. Francesco Prontera. (prontera@unipg.it) - or http://www.unipg.it/~dipstor1/doc_pdf/IV_seminario.pdf

IMCoS Excursion

Luxembourg, 6-7 October 2006

The London-based International Map Collectors' Society visits the Luxembourg Archives Nationales and Bibliothèque Nationale.

For information contact Rolf Langlais, Am Oberen Werth 25, D-40489 Düsseldorf, rolf.langlais@t-online.de, Tel +49-211 407 54

Virginia Garrett Lectures in the History of Cartography

Arlington, USA, 6-7 October 2006

Lectures will focus on *Mapping the Sacred: Belief and Religion in the History of Cartography*. The lectures will focus on how religions of the world use maps to depict sacred ideas and at times to

keep track of worldly territories.

At the University of Texas at Arlington, Central Library
Additional information from Carolyn Kadri, Special Collections, UTA Libraries, Box 19497, Arlington TX 76019-0497; tel 817-272-7153, fax 817-272-3360. <http://libraries.uta.edu/txmapsociety/>

The London Antique Map Fairs, 8 October 2006 and 10 December 2006

10:30-17:00 at The Rembrandt, 11 Thurloe Place - Opposite the Victoria & Albert Museum in South Kensington, London, UK (between the Knightsbridge and South Kensington Tube stations). <http://www.londonmapfairs.com/> or info@londonmapfairs.com

The Oxford Seminars in Cartography, 14th Annual Series

Oxford, UK, 12 October 2006

Mapping empires, mapping bodies: reflections on the uses and abuses of cartography, by Matthew Edney (Director, History of Cartography Project, University of Wisconsin, Madison / Associate Professor and Faculty Scholar, Osher Map Library and Smith Center for Cartographic Education, University of Southern Maine, Portland)

From 17:00 to 18:30 in the Board Room, University of Oxford Centre for the Environment, South Parks Road, Oxford.

For further details contact nam@bodley.ox.ac.uk or Tel. +44(0) 1865 287119

Warburg Lectures on Cartography, London

The London County Council Bomb Damage Maps (1939-1945)

19 October 2006

Dr Robin Woolven (London Topographical Society)

The 1518 Map in Sir Thomas More's Utopia: Dentistry Solves the Mystery

23 November 2006

Malcolm G.H. Bishop (Independent Scholar)

At University of London, Warburg Institute, Woburn Square, London WC1H 0AB, UK, at 17:00.

<http://www2.sas.ac.uk/warburg>.

Enquiries to +44 (0) 20 8346 5112 (Catherine Delano Smith) or Tony Campbell (t.campbell@ockendon.clara.co.uk)

Measuring and weighing throughout the centuries

Halle, Belgium, 20 October 2006

Lecture with collection objects by Lic.Ing.Johan Vanvolsem, member of the BIMCC Executive Committee who has been nominated as the new president of the Regional Museum of South-West Brabant, in the town of Halle (Flemish-Brabant.).
At 20:00 in the City-Hall of Halle (Oudstrijdersplein). Free

Conference Maps for the New Nation: Mapping and Cartography of the United States, 1776-1860,

Chapel Hill, USA, 3-4 November 2006

At the Wilson Library on the campus of University of North Carolina. <http://www.lib.unc.edu/ncc/maps/>

5th Paris Map Fair

Paris, France, 11 November 2006

At Hotel Ambassador, 16, Bd Haussmann from 11:00-18:00
<http://www.map-fair.com/Paris2.html>

Conference 250 years of Topographic Charts Paris, France, 17 November 2006

The conference will honour the 250th anniversary



INTERNATIONAL NEWS AND EVENTS (CONT'D)

of the publication of the first sheet of Cassini's chart.

The program of the conference will be posted soon at <http://www.lecfc.freesurf.fr/actualite.html>
Additional information from Secrétariat du Comité français de cartographie, 107 rue de la Boétie 75008 Paris; phone +33(0)1 45 62 71 75.

15th Mechelen Antiquarian Book Fair Mechelen, Belgium, 8-10 December 2006

Cultural Centre Mechelen, Minderbroedergang 5. Information: Mr Garcia, Tél +32(0)15 29 09 85

25th International IMCoS Symposium Guatemala, 5-7 February 2007

The International Map Collectors' Society (IMCoS) Symposium will be followed by optional tours of the

country from 8 to 11 February.

The organizers are Jens and Erica Bornholt. imcos@ufm.edu.gt or P.O. Box 1376, Guatemala City. <http://www.imcos.ufm.edu>.

22nd International Conference on the History of Cartography (IHC)

Bern, Switzerland, 8-13 July 2007

Conference themes: mapping relief, maps and tourism, languages and maps, time as the cartographic fourth dimension.

Bern University, UniS-Building, Schanzenstr. 1, Bern. Registration: IHC2007, c/o swisstopo, P.O. Box, 3084 Wabern. Fax +41 31 963 24 59. ok@ichc2007.ch, <http://www.ichc2007.ch>

Exhibitions

100 treasures of the Royal Library of Belgium Brussels, Belgium, until 30 Sept. 2006

Exhibition with cartographical objects such as Jacob van Deventer's City Atlas (sixteenth century) and the atlas made for King Philip II of Spain by Christian Sgrooten.

At the Nassau chapel, Royal Library, Kunstberg / Mont des Arts, Brussels. Free entrance. Tel. +32 (0) 251 953, info175br.be

Himmel und Erde - Ptolemaios, der Astronom und Geograph (Sky and Earth - Ptolemy, the Astronomer and Geographer)

Bern, Switzerland, until 14 October 2006

Exhibition focusing on the two major works of Ptolemy: the astronomical *Almagest* and the cartographical *Geographia*.

At Stadt- und Universitätsbibliothek Bern, Münsterstrasse 61. Opening hours: Mo-Fr 8:00-19:00, Sa 8:00-12:00. <http://www.stub.unibe.ch/index.php?p=1&i=216>

Papier, Beeld en Basis in kaart gebracht (Paper, Image and Basics Mapped),

Aalst, Belgium, until 15 October 2006

Exhibitions with historical maps of the region around Aalst and Flanders, presented in contrast with contemporary cartographical works of art.

At the Stedelijk Museum Aalst, Oude Vismarkt 13, Aalst, tel. +32(0)53 73 23 40 musea@aalst.be, <http://www.aalst.be/default.asp?siteid=1&rubriekid=346&artikelid=2122>

Peloponnesus: Cartography and History, 16th-18th centuries

Athens, Greece, until 29 October 2006

New exhibition of old maps of the Peloponnesus that aims to underline the informative value of maps about the history of the region they depict, as well as about the identity of the society where the cartographers who made them lived.

At the Eynardos Building on the corner of Agiou Konstantinou and Menandrou Streets in Athens, Greece. Visit <http://www.miet.gr/web/default.htm>

Cristóbal Colón y el mito colombino (Columbus and the Columbian myth)

Madrid, Spain, until 31 October 2006

The Museum wants to show how Columbus' life was dominated by geographical and religious myths and how in the 19th century the reinterpretation of Columbus' myth survives in the Spanish Romanticism and around the Fourth Centenary.

At the Museo Naval de Madrid, Plaza del Prado 5, Madrid. <http://colon.museonavalmadrid.com/index.html>

400 Jahre Johannes Mejer, der grosse Kartograph aus Husum (400 years Johannes Mejer, the great cartographer of Husum).

Husum, Germany, 27 Sept 06-end Feb 07

Johannes Mejer (1606 – 1674) surveyed the duchies of Schleswig and Holstein, then part of Denmark, and contributed maps to Danckwerth's atlas of the region (1652). Joan Blaeu used his work for the 'Atlas Maior' (1662).

Oswald Dreyer-Eimbcke, well-known map historian, has prepared a companion book illustrated with numerous maps from Danckwerth's atlas and from the map collection of the Royal Library Copenhagen.

Publisher Komregis ISBN 3-938501-12-X, EUR 19.00
At the Schiffahrtsmuseum Nordfriesland, Zingel 15, D-25813 Husum. The Museum is open daily from 10.00 to 17.00.

Corpus Christi collection

Rotterdam, The Netherlands

17 November 2006 - 28 May 2007

The Maritime Museum acquired the 'Corpus Christi collection' also known as 'the School of Geography collection'. This collection consists of 20 Dutch VOC sea charts (13 on vellum) and 10 English sea charts, all dating from the seventeenth century. It is an amazing collection with for instance eight charts of Joan Blaeu and also some charts made by mapmakers in Batavia.

At the Maritime Museum, Leuvehaven 1, Rotterdam.

Note: the exhibitions are listed in chronological order, according to closing dates.



AUCTION CALENDAR

Paulus Swaen Internet Auctions (BIMCC Sponsor)

tel. +33 (0)6 14 74 11 65
or tel./fax +33 (0)1 44 24 85 80
www.swaen.com
paulus@swaen.com

12 - 26 September 2006
18 - 28 November 2006

Michel Lhomme

Rue des Carmes 9, 4000 Liège
tel. +32 (0)4 223 24 63
fax +32 (0)4 222 24 19
www.michel-lhomme.com
e-mail librairie@michel-lhomme.com

16 September 2006

Venator & Hanstein

Cäcilienstrasse 48, 50667 Köln
tel. +49 221 257 54 19
fax +49 221 257 55 26
www.venator-hanstein.de
info@venator-hanstein.de

22 - 23 September 2006

Peter Kiefer Buch- und Kunstauktionen(BIMCC Sponsor)

Steubenstrasse 36
75172 Pforzheim
tel. +49 7231 92 320
fax +49 7231 92 32 16
www.kiefer.de, info@kiefer.de

29 - 30 September 2006

Marc van de Wiele

(BIMCC Member)
Sint-Salvatorskerkhof 7
8000 Brugge
tel. +32 (0)50 33 63 17
fax +32 (0)50 34 64 57
www.marcvandewiele.com

7 October 2006

Antoine Jacobs - Librairie des Eléphants

(BIMCC Member)
Place van Meenen 19
1060 Brussels
tel. +32 (0)2 539 06 01
fax +32 (0)2 534 44 47

**7 October, 4 November,
2 December 2006,
13 January, 10 February 2007**

Henri Godts

(BIMCC Sponsor)
Avenue Louise 230/6
1050 Brussels
tel. +32 (0)2 647 85 48
fax +32 (0)2 640 73 32
www.godts.com
books@godts.com

10 October, 5 December 2006

Sotheby's

34-35 New Bond Street
London W1A 2AA
tel +44 20 7293 5291
catherine.slowther@sothebys.com
or roger.griffith@sothebys.com
Sale of Lord Warrington's Library
Part II (maps, atlases, globes):

10 October 2006

Galerie Gerda Bassenge

Erdener Strasse 5a, 14193 Berlin
tel. +49 30 893 80 290
fax +49 30 891 80 25
www.bassenge.com
art@bassenge.com

11 - 14 October 2006

Zisska & Kistner

Unter Anger 15, 80331 München
tel. +49 89 26 38 55
fax +49 89 26 90 88
www.zisska.de
auctions@zisska.de

16 - 21 October 2006

Bernaerts Auctions

Verlatstraat 16-22, 2000 Antwerp
tel. +32 (0)3 248 19 21
www.bernaerts.be
info@bernaerts.be

16 - 18 October 2006

Reiss & Sohn

Adelheidstr. 2, 61462 Königstein
tel +49 6174 92 720
fax +49 6174 92 72 49
www.reiss-sohn.de
reiss@reiss-sohn.de

23 - 28 October 2006

Van Stockum's Veilingen

Prinsegracht 15
2512 EW 's-Gravenhage
The Netherlands
tel. +31 70 364 98 40/41
fax +31 70 364 33 40
www.vanstockums-veilingen.nl
vanstockumsveilingen@planet.nl

8 - 10 November 2006

Loeb-Larocque (BIMCC Sponsor)

31, rue de Tolbiac, 75013 Paris
tel. +33 (0)6 11 80 33 75 or
tel./fax +33 (0)1 44 24 85 80
www.loeb-larocque.com
info@loeb-larocque.com

10 November 2006 (Salle Drouot)

Ketterer Kunst

Messberg 1, 20095 Hamburg
tel. +49 40 374 96 10
fax +49 40/374 96 166
www.kettererkunst.de
infohamburg@kettererkunst.de

13 - 14 November 2006

Librairie Alain Ferraton

Chaussée de Charleroi 162
1060 Brussels
Tel. +32 (0)2 538 69 17
Fax +32 (0)2 537 46 05
www.ferraton.be
alain.ferraton@skynet.be

18 November 2006

Bubb Kuyper

Jansweg 39, 2011 KM Haarlem
The Netherlands
tel. +31 23 532 39 86
fax +31 23 532 38 93
www.bubbkuyper.com
info@bubbkuyper.com

21-24 Nov. 2006

The Romantic Agony

(BIMCC Sponsor)
Acqueductstraat 38-40
1060 Brussels
tel. +32 (0)2 544 10 55
fax +32 (0)2 544 10 57
www.romanticagony.com
auction@romanticagony.com

24 - 25 November 2006

Michel Grommen

Rue du Pont 33, 4000 Liège
tel. +32 (0)4 222 24 48
fax +32 (0)4 222 24 49
www.librairiegrommen.be
e-mail librairiegrommen@skynet.be

25 November 2006

Holger Christoph

(BIMCC Sponsor)
Kaiserstrasse 1a, 53115 Bonn
tel. +49 (0)228 261 82 80
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BIMCC

BRUSSELS INTERNATIONAL MAP COLLECTORS' CIRCLE

<http://www.bimcc.org>

Aims and functions of the BIMCC

The BIMCC is a non-profit association under Belgian law (asbl/vzw 0464 423 627) aiming to:

1. Provide an informal and convivial forum for all those with a specialist interest in maps, atlases, town views and books with maps, be they collectors, academics, antiquarians, or simply interested in the subject
2. Organize lectures on various aspects of historical cartography, on regions of cartographical interest, on documentation, paper conservation and related subjects
3. Organize visits to exhibitions, and to libraries and institutions holding important map and atlas collections.

In order to achieve these aims, the Circle organizes the following annual events:

- A MAP EVENING in March or April, bringing together all those interested in maps and atlases for an informal chat about an item from their collection – an ideal opportunity to get to know the Circle.
- An EXCURSION to a Map Collection, between September and November.
- A STUDY SESSION or an INTERNATIONAL CONFERENCE on a specific major topic every year in December.

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Members receive three Newsletters per annum and have free admission to most of the BIMCC events — non-Members pay full rates.

Annual membership: EUR 30.00,
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To become (and stay!) a Member, please pay the membership dues EXCLUSIVELY by bank transfer (no check please) to:
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and notify the Secretary indicating your name and address.

BIMCC Newsletter

The BIMCC currently publishes three Newsletters per year, in January, May and September. Please submit calendar items and other contributions to the Editor by the 15th of the previous month for the next edition.

Signed articles and reviews solely reflect the opinions of the author.

To be informed or reminded about BIMCC events send your e-mail address to info@bimcc.org

For advertising in this Newsletter (and on our Web site www.bimcc.org), please contact the BIMCC Secretary

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