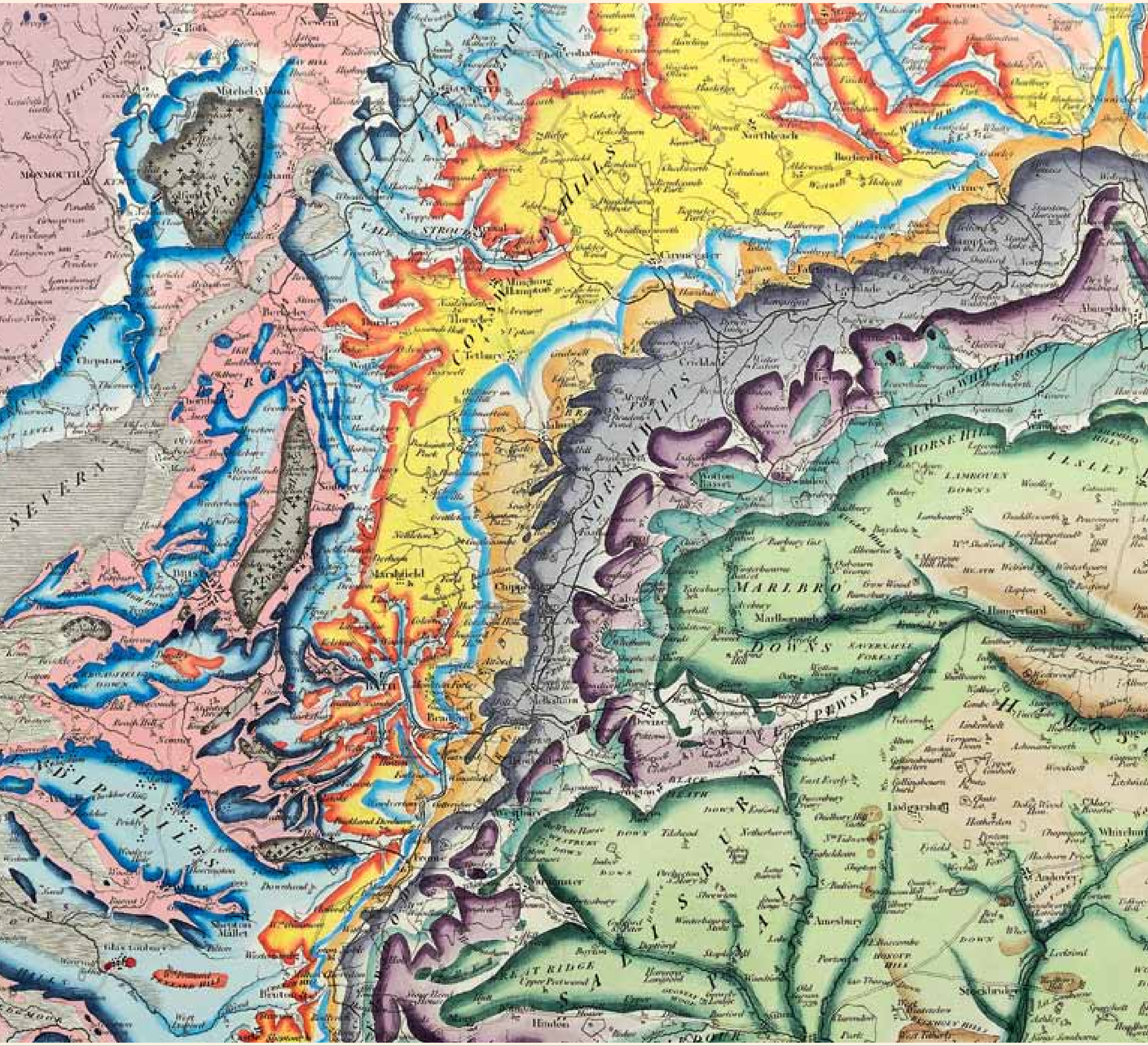
INTERNATIONAL MAP COLLECTORS' SOCIETY

# IMCoS JOURNAL

WINTER 2014 No.139




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# JOURNAL OF THE INTERNATIONAL MAP COLLECTORS' SOCIETY

WINTER 2014 No.139

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*Front cover*
**Detail of 'A Delineation of the Strata of England and Wales', 1815 by William Smith. Full image on p. 16. Courtesy, Daniel Crouch Rare Books, crouchrarebooks.com**

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# A LETTER FROM THE CHAIRMAN

**Hans Kok**

Time flies! Another year has gone by and I am writing a chairman's letter again with our Best Wishes for a Merry Christmas and a Happy New Year! Assuming that these dates are celebrated, as such, in your region of our planet, as they are in the United Kingdom.

About half of your Executive Committee went also flying, (at their own expense, of course), in and out of Seoul, that is, where the 32nd IMCoS International Symposium took place. It was a resounding success, eminently organised with lots of beautiful maps and charts to make our trip more than worthwhile! Our thanks to Professor Ki-Hyuk Kim and Professor Bo-Kyung Yang and their Organising Committee for a job more than well done. Many thanks also to the supporting institutions and our own TJ Kim (National Representative for Korea), who doubled as tour guide and Master of Ceremonies, whilst the Korean dinner at his Mum's restaurant will also be remembered for a long time.

Our editor will be reporting on the Symposium elsewhere in the Journal. Our hosts arranged for large number of group and individual photographs, so she will not be short of illustrations.

IMCoS did get a lot of exposure from the local press, in newspapers and on television. Korea's economy is bustling and so is the historical cartographic scene with impressive new buildings to house collections, Government support and adequate funding, it seems. The Far East is fast becoming an environment where everything happens at the same time, including an upsurge in interest in historical cartography.

On our next Symposium in Cape Town, there is also good news; the website www.2015imcos.com has gone live. Monthly updates are planned; those considering a trip to South Africa next year are advised to check the site at regular intervals. The Committee is striving for a 2016 Symposium in Western Europe but finding local organisers is the difficult part of the exercise.

The subscription renewals for 2015 are the last to be handled by Mrs Sue Booty; much to our regret, she has announced that after some ten years as financial secretariat, she wishes to retire. Luckily, she has agreed to help with processing renewals for the coming year and introduce her successor to the ins and outs of the IMCoS system. The Executive Committee is very sorry to see her go; finding a suitable replacement is difficult enough nowadays, but a successor with the same qualities is even more difficult.

Dear Sue, on behalf of the Executive Committee and the membership in general: very, very many thanks for all your good work! We will miss you a lot; our very best wishes for the future to you from us all!

It remains for me to wish you pleasant reading of this issue and please, do not forget to renew your subscription, if due, or update your personal data on the website, should there be any changes.

IMCoS

## NEEDED
## FINANCIAL & MEMBERSHIP ADMINISTRATOR/S

**Contact Jeremy Edwards**, Tel +44 (0)1932 787390, Email jcerooksmead26@talktalk.net

The financial and membership administrator is retiring and the Executive Committee are seeking to replace her with one or two persons to cover these duties. These are part-time posts, each requiring on average six hours per month, remunerated on an hourly basis. The person (or persons) appointed should be computer literate, and should have their own computer. Training will be given, and programs installed by the society for Quickbooks (financial) and Joomla (membership). Membership matters are administered through the Society's website.

---

The **Financial Administrator** will handle all arrangements concerning the recording of receipts and payments under the direction of the Hon. Treasurer. This is carried out using the Quickbooks accountancy program which enables reports to be produced automatically and to transmit to the Hon. Treasurer.

**1** Record and bank any incoming monies.
**2** Receive members' subscriptions. If not also acting as Membership Administrator, advise this officer of members' details and period covered.
**3** Receive applications for IMCoS functions, process payments and advise organisers of names of attendees.
**4** Prepare and issue invoices in respect of advertisements in the Society's *Journal*. Issue reminders and advise the Advertising Manager of any overdue invoices.
**5** Deal with correspondence from members, with support from committee members.
**6** Make ledger postings in respect of payments authorised by the Hon. Treasurer and direct payments shown on bank statements. Cheques are issued by the Hon. Treasurer, and copies of supporting documents are forwarded promptly for posting.
**7** Prepare monthly bank reconciliations.
**8** Prepare a Trial Balance and other reports quarterly for the Hon. Treasurer.
**9** Carry out end of year procedures, and make records available to the Hon. Treasurer.
**10** Maintain confidentiality of the Society's data and ensure compliance with the Data Protection Act.

---

The **Membership Administrator** will maintain the list of members on the database and ensure adequate back-up.

**1** Enter new members on the database and send them 'welcome packs'.
**2** Maintain membership record on the society's website, including e-mail addresses.
**3** Send renewal reminders.
**4** Send updated information to the *Journal* editor quarterly for mailing of the *Journal*.
**5** Advise the Chairman or a designated committee member of any long-standing members who have died or not renewed by 30 April.
**6** Deal with correspondence from members, with support from committee members.
**7** Maintain confidentiality of the Society's data and passwords and ensure compliance with the Data Protection Act.


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# FROM THE EDITOR'S DESK

**Ljiljana Ortolja-Baird**

The last issue's editorial focused on missing maps – those stolen – but in this issue, I want to alert readers to a project that will, within two years, create maps of those areas of the world for which there are presently no maps. Invariably, they are in regions most vulnerable to humanitarian crises: natural disasters, disease or conflict.

The Missing Maps Project has been launched to create free digital maps for every single settlement on Earth. It is an open, collaborative initiative founded by Médecins Sans Frontières (MSF), the British Red Cross, the American Red Cross and the Humanitarian OpenStreetMap Team (HOT).

MSF uses maps every day to get to patients, to assess the needs of crisis-hit communities, to track disease spread and to respond to local events. The devastating outbreak of cholera in Haiti after the earthquake in 2010 was an instance when many victims died unnecessarily because of insufficient geographic knowledge.

Location is key to managing the spread of disease. To prove his theory that cholera spread through contaminated water, London epidemiologist Dr John Snow mapped the 1854 Soho outbreak. He noted the thirteen public wells used by the inhabitants and all the known cholera deaths in the district. From the spatial clustering of cases, he was able to identify the contaminated well and stop the disease at source.

Despite advances in satellite photography and GPS, there are parts of the developing world, entire cities, in some cases, that are still unmapped. MSF believes that if humanitarian agencies had good digital maps of places that are particularly prone to natural disasters, conflict or diseases, they could respond more effectively with each crisis as it occurs.

The Missing Maps Project will do just this. It is being run by the Humanitarian OpenStreetMap www.openstreetmap.org and they need volunteers to help. The method HOT has developed allows volunteers to take part remotely. *The Guardian*, on 6 October 2014 published an article on the Project in which it described the simplicity of the mapmaking methodology:

> *The first step is to take satellite images and plug them into the free mapping software OpenStreetMap. Volunteers then log in remotely, from anywhere in the world, and use an easy point-and-click tool to trace the outlines of buildings, roads, parks and rivers over the satellite image. Next, the map, which still lacks street or landmark names, is physically printed out and posted to volunteers who are located in the city. Each takes a small section of the map and writes down the names of streets and buildings.*
>
> *Finally, the completed maps are posted back to Missing Maps HQ in London, where volunteers fill in the names on OpenStreetMap.*

If you have time to volunteer for such a worthwhile project please contact Médecins Sans Frontières at www.msf.org.uk

## WELCOME TO OUR NEW MEMBERS

We would like to extend a welcome to the following members who have joined IMCoS recently:

**Dominykas Kavoliunas**, UK
Collection interest:
Grand Duchy of Lithuania

**Carl Guzzo**, USA

**Andrew Alchin**, UK
Collection interest: Hungary

**Mohan Balagopalan**, USA
Collection interest: Asia

**Henry Peacock**, UK
Collection interest: Ortelius

**Charlotte Marriott**, UK
Academic

**Simon Morris**, UK
Collection interest:
Folding maps, London maps

**Tim von Martini**, Switzerland

**Hocken Collections**,
New Zealand
Academic Library

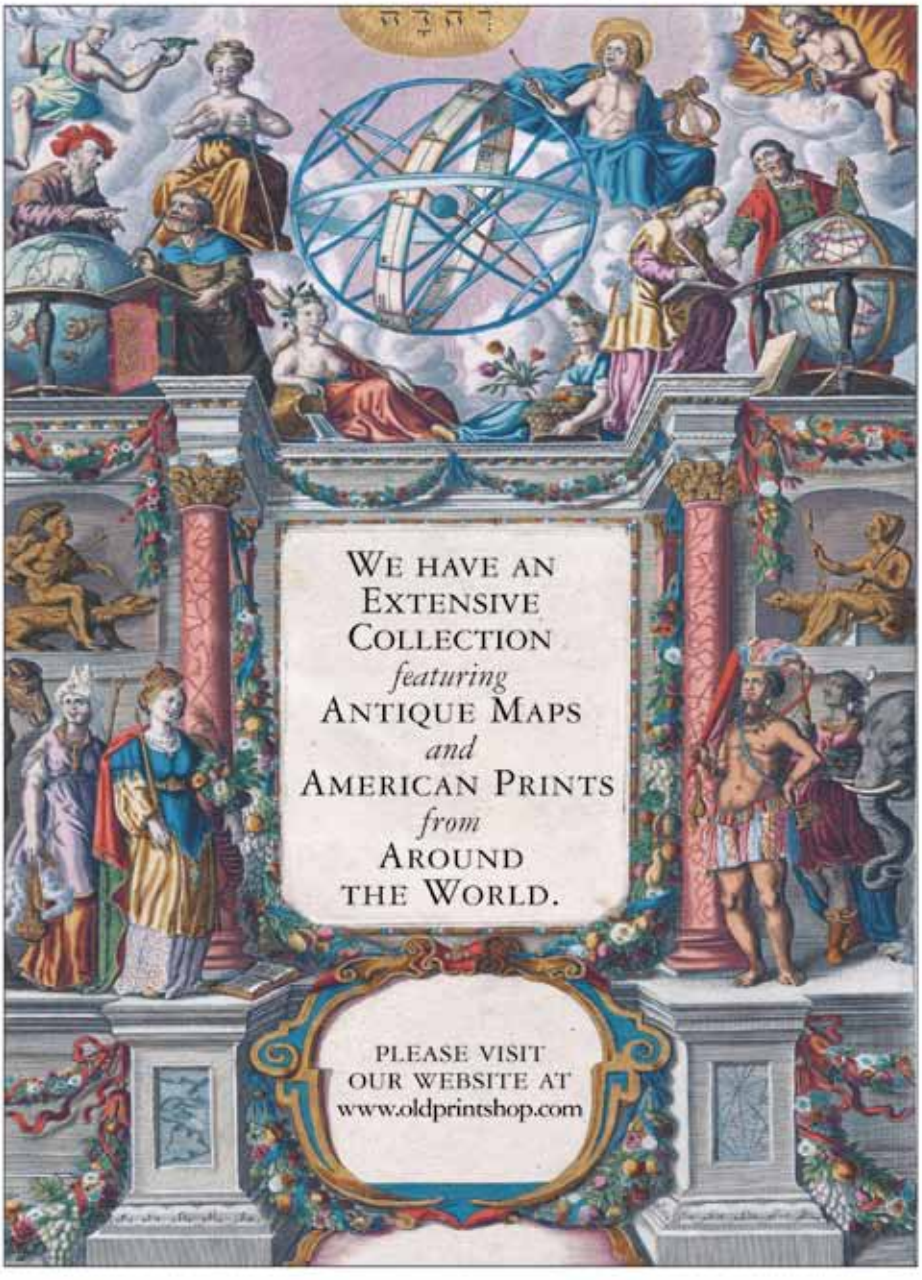
**J. Wright**, USA
Academic

**Barry Martin Brian**, UK
Collection interest:
19th-century Ordnance Survey coloured plans

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## Forthcoming Events

**15 January 2015**
**Deadline for nominations for the IMCoS/ Helen Wallis Prize**
The International Map Collectors' Society has been presenting an Award to an individual, who in the opinion of the selection sub-committee has been responsible for cartographic contributions of great merit and wide interest to map collectors worldwide. Though the Award is intended to recognise individual merit, in special circumstances a group of people or an organisation could be eligible.

The Award comprises of a salver, £300 and a certificate, as testimony to its presentation.

In general, the Award is presented during the Annual Dinner of the Society in June and is normally held in conjunction with the London Map Fair.

Please send nominations by 15 January 2015 to the Chairman, Tony Campbell, at tony@tonycampbell.info or to 76 Ockendon Road, London N1 3NW.

**31 January 2015**
**Map collectors' afternoon**
This year the map collectors' meeting moves from being a weekday evening event to a Saturday afternoon. It will be held between 2–6pm at the Civil Service Club, 13–15 Great Scotland Yard, London SW1A 2HJ.

There will be no theme to the afternoon, so bring a map or chart – a recent or not so recent acquisition – that you would like to share with other members, and perhaps, even, get some additional information about it from Francis Herbert who will be chairing the event.

In addition, if you have a scan of your map please load it onto a memory stick so that we can display it, enlarged, on a screen. So that Francis can do his homework, it would be helpful if you could email him at francis443herbert@btinternet.com or Ljiljana at ljiljana.editor@gmail.com with a short title of your map, and if you can, its date and maker. Also, for security purposes we will need to give the Club a complete list of those attending.

**17–18 April 2015**
**IMCoS visit to Scotland**
IMCoS Vice Chairman Valerie Newby is organising a spring break in Scotland. See p. 8 for full details of the event. Please put this date in your diary; confirmation of all the arrangements and final costs will be emailed to you early next year. In the meantime, if you are planning to come please contact Valerie to let her know so that she can get an idea of numbers involved: telephone +44 (0)1296 670001 or email valerie.newby@btopenworld.com

**5 June 2015**
**IMCoS annual dinner & Malcolm Young lecture**
The event will be held at the Civil Service Club, 13–15 Great Scotland Yard, London SW1A 2HJ.

**6 June 2015**
**IMCoS annual general meeting**
The meeting will be held at the Royal Geographical Society (with IBG) at 1 Kensington Gore, London SW7 2AR.

**6–7 June 2015**
**London Map Fair**

**19–21 October 2015**
**33rd IMCoS symposium in Cape Town**
See p. 9 for further details.

## Appointments of National Representatives

**Dr Manosi Lahiri** has been appointed national representative of India. Manosi is a professional in geographic information systems and founded ML Infomap, New Dehli. A collector of old maps, she is also the author of *Mapping India* (reviewed in the summer 2012 issue of the *IMCoS Journal*. (manosi@mlinfomap.com)

**Jonathan Wattis** has taken up the appointment for Hong Kong. James is a well-known dealer specialising in antique maps of Asia, and historical photographs and prints of China, Hong Kong and Southeast Asia. (info@wattis.com.hk, www.wattis.com.hk)




# A WEEKEND IN HIGHLAND SCOTLAND

Why not join members of IMCoS for a spring break in Scotland? Valerie Newby is planning a two-day trip based in Perth on **17 and 18 April 2015**. Put this date in your diary and you will be sent an email confirming all arrangements and cost early next year. Let us know as soon as possible if you would like to come so that we can get an idea of numbers involved (**valerie.newby@btopenworld. com**) or telephone **+44 (0)1296 670001**.

Spring is a delightful time to visit Scotland as it shrugs off its winter blanket and days lengthen. The current plan is to arrive in Perth on Thursday 16 April and after a delicious Scottish breakfast on Friday 17, spend part of the day with the Royal Scottish Geographical Society, which is planning an exciting programme for us, with a viewing of its map collections, a tour of its premises including the Shackleton Room (named after Sir Ernest Shackleton who was its Secretary in 1904) and an evening reception. They will also give us a tour of the Fair Maid's House which, after lying unused and unloved for many years, the Society restored and extended. This fourteenth-century house serves as part of RSGS headquarters and is the oldest secular building in Perth, named after the heroine of one of Sir Walter Scott's novels. It houses displays about geography, and their Explorers and Cuthbert Rooms, both of which hold intriguing collections. RSGS (founded 1884) is the foremost charity in Scotland which promotes an understanding of the natural environment and human societies through education, dialogue and a vibrant activities programme.







Perth, known as 'The Fair City' and the gateway to the Highlands, is 72 km/45 m from Edinburgh situated on the banks of the River Tay. It is an attractive city which has just been given back its 'City' status. There are a number of central hotels – The Royal George **theroyalgeorgehotel.co.uk**, which is situated on the banks of the Tay, the Mercure Hotel **www.mercureperth.co.uk**, the Salutation Hotel **www.strathmorehotels.com/Salutation+Hotel/Home** and a number of guest houses just off the centre.

On Saturday 18 April we will travel by coach to the stunning fairy tale Blair Castle at Blair Atholl, home to the Dukes of Atholl, where there is a fine collection of eighteenth-century estate maps by the surveyor James Stobie. We may also see the plans for a town which never materialised. The castle stands proudly above its estate village picked out in brilliant white against the dark pines and heather-covered hills beyond. Many rooms are open to the public and we will combine seeing the maps with a tour of these rooms plus the vast ballroom and Great Hall. Queen Victoria stayed in 1844 and it is here she is reputed to have fallen in love with the Highlands leading to her acquisition of Balmoral Castle. There may also be time to visit the castle's Hercules Garden with its view of Ben Nevis. On our return we will stop for tea at the delightful small town of Dunkeld with its part-ruined Cathedral, secondhand bookshop and Thomas Telford's famous bridge over the River Tay. Saturday evening we will gather for a farewell dinner (not included in the price of the weekend). You will then be free to travel back to Edinburgh or continue with a tour of Scotland.

**33rd International IMCoS Symposium**

# 400 YEARS OF CARTOGRAPHY OF TRAVELS TO AND IN SOUTHERN AFRICA

**Cape Town 19–21 October 2015**

The organisers invite members, friends of the Society and students to attend the of the 33rd International IMCoS Symposium. It will be held in southern hemisphere spring, in Cape Town, South Africa.

## Cape Town and Cape Peninsula

The symposium venue will be the Centre for the Book, a unit of the South African National Library; it is located in Queen Victoria Street in the City Bowl. The library has a large collection of historical maps of Africa some of which will be exhibited during the symposium. The venue is adjacent to the famous 350-year-old Dutch East India Company Gardens, where the first citrus trees were planted, in 1654, to combat sea scurvy; this was only two years after the Dutch had settled on the shore of Saldania Bay, now Table Bay. The Gardens were also the site of the first astronomical determination of longitude, in 1685, by Father Guy Tachard, who was on a diplomatic mission (with a cartographic purpose) *en route* to Siam. Today, the decorative gardens are a popular site for a tranquil stroll and are now also the site of the National Museum, Library, Art Gallery and House of Parliament.

There is good accommodation near the venue and the organisers currently are negotiating favourable rates.

The theme of the symposium will be *400 years of cartography of Travels to and in southern Africa*, from the Portuguese explorers (c. 1500) to the Boer War (c. 1900). Presentations will include *Early Charts of European travel to the Far East and Antarctic*; *The stars of southern African cartography*; *Mauritius and the first accurate map in the Southern Hemisphere*; *David Livingstone's maps of exploring the Zambezi River and beyond*; *Monomotapa, Myth, Money and Miniature Maps*; *A raconteur's map of travels in southern Africa*; *Mapping 'The Hitherto Unknown'*; *Bitter rivalry in mapping the Cape of Good Hope*.

Visits are being arranged to national map collections in Cape Town; the Iziko South African Museum and Slave Lodge; to Stellenbosch, where the university will exhibit some of its maps; the Rupert Art Museum where we'll view a magnificent 1808 panorama by Josephus Jones, a local artist and mapmaker.

Cape Town and its environs is a popular tourist destination, as are Stellenbosch, Franschhoek and Helderberg, all within an hour's drive from Cape Town. We are planning, with local historical societies, a pre-symposium tour of the Cape Peninsula and a post-symposium tour to the Garden Route.

The symposium website is **www.2015imcos.com**; the site will keep members up to date on arrangements, travel support and information, the symposium programme. The site will also feature maps and articles on southern Africa cartography and history, as well as highlight places and events that may be of interest to members joining us next year for what we hope will be a memorable and enjoyable symposium.

Roger Stewart, IMCoS representative in South Africa




Cape Town and Cape Peninsula





*Left*
L to R
Nancy & William Brandenburg, Linda & Wes Brown, Edith & George Piness, Leonard & Juliet Rothman.

*Right*
The Team, responsible for a marvellous symposium.







*Left*
L to R
Peter & Fedeliz Geldart.

*Right*
L to R
Richard Pegg & Min Zhang.

*Far right*
L to R
Harold & Ling-Ning Meinheit.





*Left*
Hans Kok thanking Jeong Shim Kim, TJ's mum (in the pink shirt), for hosting a dinner for IMCoS. Lorraine Sherry & Jim Hensinger in the foreground.

*Right*
L to R
Organisers Bo-Kyung Yang & Ki-Hyuk Kim.





*Left*
L to R
Moody Tang, Jenny Harvey, Bo-Kyung Yang & Kazumasa Yamashita with performers from Korea House.

*Right*
L to R
Erika Bornholt, Ian Harvey, Ljiljana Ortolja-Baird, David Wright & Erna Bornholt.

**32nd International IMCoS Symposium**

# PEACE ON MAPS IN EAST ASIA

**Diary from Seoul**

**Day 1**

Participants to the 32nd International IMCoS Symposium were greeted by a warm and enthusiastic reception and dinner hosted by our Korean friends. Welcome addresses, given by local organiser **Ki-Hyuk Kim** and IMCoS chairman **Hans Kok**, were introduced by the indefatigable **TJ Kim**, who has been the brainchild behind Seoul as the 2014 Symposium destination. **Suh-Myun Ch'oe** Director of the Institute for Korean Studies gave the welcome speech in which he outlined several key developments in the representation of Korea on Western maps and reminded us that in 1402 Korea had produced a world map 'Honilgangriyeojegukdojido' which is the 'oldest world map surviving in the East Asian cartographic tradition'. The map is featured on both the cover of Vol. 2 of the *History of Cartography* and the new Korean cartography magazine *The Old Map Quarterly*. Dinner was followed by a lecture on Korean culture, 'Understanding How Korean Thinking and Behaviour is Formed' by Steven Capener of the Seoul Women's University; the discussion of the pervasive influence of the hierarchical structure of Korean Neo-Confucianism helped participants to better appreciate their host culture.

**Day 2**

In his opening address of the first day of formal papers 'Capt. Cook', aka Hans Kok (so dubbed by TJ Kim) acknowledged the resonance of the Symposium title – 'Peace on Maps in East Asia' – for a nation divided. **Bo-Kyung Yang** of Sungshin Women's University and Symposium co-organiser presented the first paper on traditional Korean geography which she explained is defined within the time frame of pre-history until the end of the Joseon period. She outlined that a distinctive characteristic of old Korean maps is their likeness to landscape painting. Often presented as a hanging scroll or a screen, the maps functioned as both a source of information and as an object of beauty to be admired. **Min Zhang** Cataloguing Team Leader in the Geography and Map division of the Library of Congress discussed the differences between eastern and western cartography, identifying features such functionality, perspective, aesthetics and the use of texts as points of comparison. Private collector **Wesley Brown** from the Rocky Mountain Map Society closed the morning session with a carefully honed paper that drew on his collecting interest in world maps up to 1540. *1500: The Year of Seven Distinct World Views* investigated his thesis that around 1500 there were eight very different types of maps being produced, each with the purpose of understanding contemporary geography.

In the afternoon we were bussed to the **Kyujanggak Institute for Korean Studies**, the former Royal Library of the Joseon Dynasty, (1392–1910), which houses over 260,000 items including the Annals of the Joseon Dynasty (Joseon Wangjo Sillok), Daily Records of the Royal Secretariat (Seungjeongwon Ilgi) and Uigwe or 'Royal Protocols' of the Joseon Dynasty. They are among South Korea's National Treasures and are inscripted in UNESCO's Memory of the World Programme. Some of the unique maps we saw included 'Doseongdo' an eighteenth-century depiction of Seoul; a 1706 representation of the Korean-Chinese borders between Liaodong Peninsula and Beijing (Treasure No. 1542), which was mounted on a 10-panel folding screen and intended for military purposes. The remaining afternoon was spent viewing maps at the Korean Christian Museum at Soongsil University. It has a marvellous collection of traditional woodblock printed maps of Korea and its counties; city and world and maps; maps of palaces and government buildings, as well as atlases and geography books. For the Western eye there is an arresting 1674 map of the world 'Gonyeojeondo' on eight panels by Jesuit priest Ferdinand Verbiest. All toponyms and text are in Chinese characters and the unknown southern hemisphere is populated with an assembly of exotic animals.

**Day 3**

**Sang-Hak Oh** from the Jeju National University started the morning's session with *World Images in the Old Maps of Korea* in which he offered examples of maps dating from the Joseon Dynasty and which demonstrated some key aspects of Korean mapmaking traditions: the view that that the heaven is round and the earth a rectangular shape therein; that Korean cartographers used Chinese sources; and the maps reveal a Chinesecentric world view. **Petra Svatek** from the University of Vienna considered the changing depiction of East China and Korea on Austrian and German Maps from the sixteenth to the nineteenth century with a focus on the last two centuries, as during this period, there were significant improvements in the quality and quantity of maps produced. PhD candidate from the National University of Taiwan, **Chia-Jung Wu** presented *Beyond Accuracy:*



L to R
Bo-Kyung Yang, Richard Pegg, Joy Kim, Wes Brown, Moody Tang, Petra Svatek, Henny Savenije, Young-Hoon Kim, TJ Kim, Vince Ungvary, Robert Clancy, Ki-Hyuk Kim.

*Interpreting and Re-Using the Japanese Colonial Maps to preserve Irrigation Heritages in Taiwan*. She argued that beyond the technical achievement made by the Japanese in mapping Taiwan during the occupation, colonial cartography was closely associated with local cultures. She explored her thesis by considering the irrigation maps made by the Japanese. IMCoS Australia representative **Robert Clancy** delivered a paper *East and West: Mapping a Meeting* in which he explored the developing relationship between Europe and the East through trade as documented in maps in the sixteenth and seventeenth centuries. Dealer **Vince Ungvary** from Asian Antique Maps Australia considered the influence the Jesuits had on the mapping of North East Asia. In *Jesuit Mapping of North-East Asia in 16th to 18th Century* he argued that historians have overplayed the influence of Matteo Ricci and other Jesuit scholars on Chinese cartography.

In the afternoon we visited the map department at the National Library. Among the treasures on display was a 42-page map from 1678. The 'Ranch Map' (Treasure No. 1595-1) depicts horse ranches throughout the different provinces of Korea. In the late seventeenth century, Korea increased the number of horse ranches across the country in order to strengthen its military.

On Thursday evening the Symposium group was invited to dinner by **Jeong Shim Kim** (TJ's Mum). As the bus crossed the Han River into the Yeongdeungpo district we were all wondering as to how she might accommodate such a large group in her dining room. Her dining room is, in fact, her restaurant in downtown Seoul, (that part of the city that never sleeps). She cleared the restaurant for her guests, sat us down east and west style and presented us with a delicious meal of Korean home-style cooking. And for those in need of a post-prandial snack, there were plenty of street vendors selling *Beondegi* (silk worm stew), a popular Korean snack food.

**Day 4**

*Celestial Planispheres in Korean History* was presented by **Joong-Yang Moon** from the Seoul National University. He discussed the three kinds of star charts used during the Joseon dynasty: traditional star charts; Western style charts that were introduced from China; and hybrid charts in which Korean scholars mixed the two, adopting principles from both traditions and creating works that had little or no astronomical merit.




Flying the banner, IMCoS members on the post-symposium tour.

**Moody Mong-Yan Tang**, Assistant Registrar at Hong Kong Maritime Museum gave a paper on the practical application of using old maps in a museum and exhibition context, explaining how maps were used to enhance the visitors' experience.

**Richard A. Pegg** is the director and curator of Asian Art for the Maclean Collection in Chicago and author of the just published *Cartographic Traditions in East Asian Maps*, discussed *Cheonhado* (maps of the world) in Korean atlases of the late Joseon period. He drew our attention to two types of world maps – 'those that are depictions of the entire globe shown in a single sphere or hemisphere' and the 'wheel maps', and explained the various sources for these types of maps.

**Henny Savenije** of the Hyupsung University related the remarkable story of Hendrick Hamel who was shipwrecked off the southern coast of Korea in 1653. Forbidden by the king to leave the Peninsula, Hamel spent thirteen years in Korea. When he finally escaped he wrote, what was to become the first Western account of the Joseon Dynasty era in Korea: *Hamel's Journal and a Description of the Kingdom of Korea, 1653–1666*.

**Joy Kim** from the Korean Heritage Library, University of Southern California was the last speaker. The library holds the Sea of Korea Map Collection, dating between 1606 and 1895. The collection of 174 maps was formed by the combination of two private collections (David Lee and Shannon McCune) and was assembled for the express purpose of documenting the various names assigned to the body of water between Korea and Japan.

Our final afternoon was spent at the **Changdeok Palace**, a UNESCO World Heritage site. It was built following the construction of Gyeongbukgung Palace in 1405. Changdeokgung is an exceptional example of official and residential buildings that were integrated into and harmonised with their natural setting. Situated at the foot of a mountain range, it was designed to embrace the topography in accordance with *pungsu* principles (Korean geomancy).

The Gala dinner and final evening was spent at **Korea House** where we were feted with a fourteen-course meal of traditional Korean dishes based on the royal cuisine of the Joseon Dynasty. Delicious! During the dinner highlights of our days in Seoul, caught by the attendant camera crew, were projected on screen to remind us of just how brilliant the event had been. Notes of farewell and exchanges of gifts of thank you and appreciation were made by IMCoS Chairman Hans Kok and Seoul Symposium organisers. To further delight our senses, the evening was concluded with an exciting performance of traditional Korean music and dance that ranged from lyrical ballads to toe-tapping rhythms and percussion more akin to contemporary Western street dance. A big thank you to all the Symposium organisers and staff for mounting such an outstanding, thoroughly enjoyable and informative programme.

감사합니다

**Post-Symposium Tour**
Report from Jenny & Ian Harvey

Following our successful Symposium in Seoul, a group of around 25 of us embarked on the Post-Symposium tour which was to take us to the south of the country and show us more maps and a true Korean experience. We were accompanied by a specialist historian for whom TJ acted as interpreter.

After a short stop at the eighteenth-century fortress of Suwon Hwaseong we drove to the Unesco World Heritage Site Hahoe Folk Village. This native village preserves Joseon period architecture and folk traditions, it is still inhabited and also has accommodation for guests in traditional Korean style housing. Thus after a typical Korean meal we found ourselves in a variety of thatched dwellings with underfloor heating and a slim mattress and duvet laid on the floor in which to sleep. Dropping to our knees more often than we are used to was 'interesting', not to mention the heads that were banged entering the low doorways!



**Ian Harvey in front of his thatched cottage, his accomodation at the Hahoe Folk Village.**

However, we survived and the following day made our way to Daegu to see the collection of maps in the Yeungnam University Museum. This had been specially opened for our visit on a Sunday, which we all appreciated, and we were met by Professor Yang again, our Symposium host, to provide amplification where necessary over and above the curator's comments. We saw some maps with which we had become familiar and others which were new to us. All were well displayed in glass cabinets and were ordered in sections: world maps, Korean maps, regional maps, town plans, military maps etc. probably the biggest selection we had seen so far.

After lunch we continued south to Pusan, to the Maritime Museum which opened only two years ago. It is a beautiful building on the waterfront and with an excellent collection of sea charts and atlases, as one would expect. The cartographic stars of the show were the complete Dudley atlas (three volumes) and a Goos atlas. These were shown, together with many other sea charts and associated maritime material in a well themed exhibition. Our visit was all too short as we had to travel onwards to Gyeongju the royal capital of the Silla Dynasty from 57BCE to 935CE. Here we saw items in the Museum from that ancient culture, particularly beautiful gold objects from the seventh and eighth centuries, including the famous crowns of Silla.

After a long day we retired to traditional Korean accommodation again, to be greeted by some well earned entertainment. We were put in traditional dress and sat cross-legged on the floor (more exercise for the knees!) to experience a tea ceremony and some short local musical entertainment. Many of us looked a picture in our costumes which provided much mirth and helped to relax us at the end of a very long but worthwhile day.



**The IMCoS group in Korean dress enjoying a traditional tea ceremony.**

The following day we visited the famous Gyeongju Buddist Temple – a tourist hotspot for Koreans too. We walked round the site where the Silla Palace was once located, viewing large undisturbed burial mounds of stone and earth – tombs of the kings – one of which was open to give us a feel for their role, structure and positioning. Then it was time to take the coach back to Seoul. We had all too briefly been immersed in Korean culture, food and living arrangements, with our knowledge of local history and traditions much enhanced and our limbs a little stiffer!

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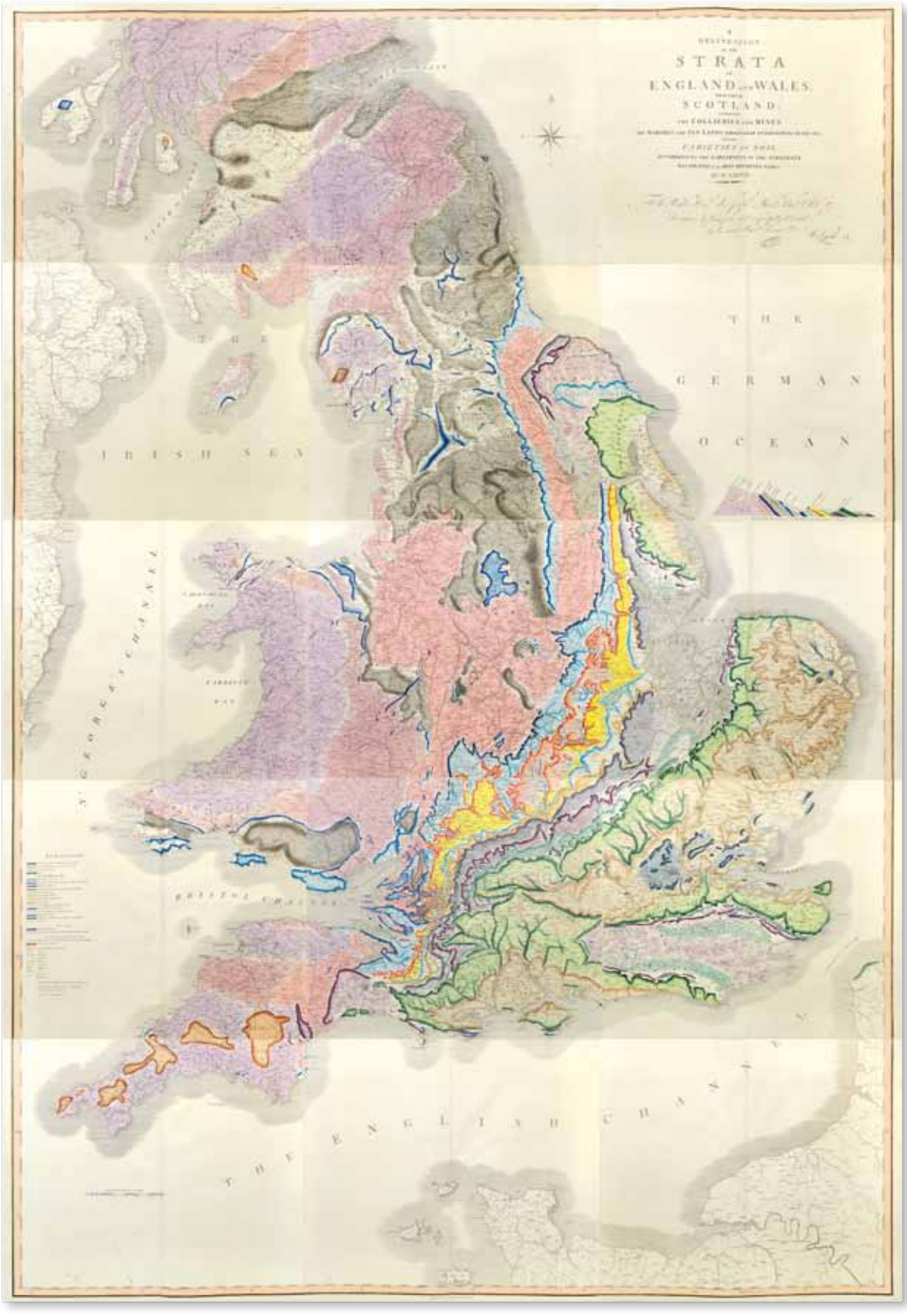
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# THE FIRST GEOLOGICAL MAP OF A COUNTRY

## *William Smith's 'A Delineation of the Strata of England and Wales'*

**John Henry**

In 1815 William Smith (1769–1839) published the first geological map of an entire nation, 'A Delineation of the Strata of England and Wales with, part of Scotland'.[1] (Fig. 1) A remarkable accomplishment by any standard for one man working alone pursuing a then unique geological concept, it was an outstanding achievement for which Smith is known as 'the father of English geology'. Given Smith's low social status and financial problems, the actual production of his map owes a great deal to the support, financial and cartographical, of John Cary (1754–1835). This article will outline Smith's background and his discovery of a fundamental geological concept that underpins much of modern geology. It will investigate Cary's vital contribution, examine the design, production history and variants of the 1815 map, and refer to Smith and Cary's other geological maps.

### Smith's Background[2]

William Smith was born in Churchill, Oxfordshire on 23 March 1769. His father, a blacksmith, died when he was eight and his mother remarried two years later. Smith attended the village school until about 1780 but, by his own account, he often wandered the surrounding fields observing nature.[3] His uncle, also William Smith, encouraged his talent for observation and sketching. He secured books on survey and geometry to give his nephew's aptitude a practical direction. In 1787 Smith was apprenticed to Edward Webb of Stow-in-the-Wold, who was surveying the parish of Churchill at this time for enclosure.

Webb's office was a stimulating environment and his projects covered a wide region. Surveyors' practices, in this period, included tasks now in the engineer's realm. Webb designed and made many of his own instruments which appealed to the young Smith. 'I admired the talent of my master, his placid and ever unruffled temper, and his willingness to let me get on, for I required no teaching'.[4] Smith was trusted to survey lands across Oxfordshire, Gloucestershire, Hampshire and Warwickshire.

In 1791 Webb transferred Smith to Stowey, near Bath, to survey collieries. Already observant of variations of soils and rock over a wide region, Smith now descended into the earth to measure the spacing and thickness of coal seams and chart geological faults displacing the seams. His abilities were noted; when the local mine owners decided to construct branch canals to connect their mines to the proposed Kennet and Avon Canal, they appointed Smith as their engineer in 1793. He accompanied two of the owners on 'a tour of enquiry and observation regarding the construction, management, and trade of other navigations in England and Wales'.[5]

This 900-mile tour extended up the east side of England to Newcastle and returned down the west side via Shropshire and Wales to Bath in the summer of 1794. It gave Smith the opportunity to compare his local geological observations in the mines and around Bath with the rest of the country. He noted familiar landforms, soils and rocks en route: 'From the top of York Minster I could see that the Wolds contained chalk by their contour.' The next day, he 'recognised in the Hambleton Hills the features of the Cotteswold Hills ... saw near Thirsk the red marl in the road (as near Warwick)'. [6]

Smith was introduced to many influential people in Bath through his directors and the landowners he encountered and was invited to join the Bath Agricultural Society. He met men who shared and encouraged his geological interest. Fossil collecting was a fashionable exercise, but Smith observed that collectors considered fossils only as ornaments or curiosities. The fossils, remains of past life forms, had been buried in sediments deposited in layers or strata on the floors of past seas and rivers. Smith recognised that particular fossils were consistently unique to particular strata and that, therefore, they occurred in a

*Left* **Fig. 1 'A Delineation of the Strata of England and Wales', 1815 by William Smith. Courtesy, Daniel Crouch Rare Books, crouchrarebooks.com**

predictable sequence in the sedimentary rock deposits. With this discovery, Smith could tell the location within the sedimentary sequence of any rock outcrop by the fossils it contained. When he organised collectors' fossils in the order of their deposition, the significance of his system of strata slowly began to be appreciated.

In 1799, an exceptionally wet year, a caisson for a deep lock which Smith had designed, and was constructing, failed. He was dismissed from the canal company. This cloud, however, had a silver lining: it released him to write up his ideas. His *Order of the Strata and their embedded Organic Remains* was recorded and he drew his first geological map of the area around Bath.[7] The former was printed and circulated but the latter remains only as a faded, varnished, nearly illegible manuscript in the Geological Society of London archives. The same wet year caused many landslips around Bath. Smith rescued the home of Rev. Richard Warner (1763–1857), Hanging Lands House by intercepting the spring water, which had initiated instability, and successfully stabilised the slope. The timely use of his geological knowledge and engineering capability to target the problem won Smith much work and a wider clientele beyond Bath as a 'drainer'.




**Fig. 2**
**Manuscript copy of 'General Map of Strata found in England and Wales', 1801 by William Smith, presented to the Geological Society of London by Smith on 21 February 1831, when he was awarded the Wollaston Prize. The original was so faded and obscured by varnish as to be illegible; therefore, in 1897, Prof. J.W. Judd, Royal School of Mines and past president of the GSL, had it traced onto a copy of the original base map. Smith used this map at agricultural fairs to interest potential subscribers for his proposed map. Courtesy, GSL.**

His drainage work in Bath was noticed by Thomas William Coke, 1st Earl of Leicester (1754–1842), who invited him to his ancestral lands at Holkham in Norfolk. Coke, in turn, introduced Smith to Francis Russell, 5th Duke of Bedford (1765–1802), who wished to improve his lands at Woburn. Thus began a peripatetic career that took Smith around the country on a variety of applied or engineering geological projects including slope stabilisation, marsh reclamation, sea wall and canal construction, and prospecting for coal and water. According to the task, he described himself as land drainer, civil engineer or mineral surveyor. He travelled up to 10,000 miles in a year, to and between projects, enabling him to inspect a wide variety of terrains and collect rock samples and fossils from all over the country. He kept detailed notes and annotated maps wherever he went but found little time to develop the book and map that were on his mind.

From 1801–07 Smith attended agricultural fairs at Holkham and Woburn, where he showed his embryonic map outlining the geology of England and Wales (Fig. 2) and copies of his *Order of the Strata*. He became known as 'Strata Smith'. In order to attract subscribers to his intended map, he spoke to anyone who would listen to his views on the utility of geology and his organising concept of stratification. Smith met Sir Joseph Banks (1743–1820), president of the Royal Society, who encouraged his map and was an early subscriber.

William Smith, in retrospect, was the right man, in the right place at an opportune time. He was observant, curious and had a capacious memory. His work involved measuring and appraising the earth's surface. The industrial revolution created a demand for coal which led to exploration and the development of mines. Canals were needed to transport the coal. The mines and canal branches Smith surveyed provided unprecedented opportunities to observe England's geological structure.

## The geological concept

Although the strata were repetitious layers of similar looking mudstones, sandstones and limestones, Smith recognised that small variations in the embedded fossils made each variety unique to a particular stratum. Smith was the first to recognise this fundamental fact and appreciate it as a predictive tool of great economic potential. By identifying the fossil he could locate his position in a sequence of strata and know if he was above an economic layer and its approximate depth. Conversely, he would know, by his position in the sequence, if strata were absent due to erosion and avoid pointless drilling. His extensive travels made him aware that his detailed observations could be reliably extrapolated over widespread areas from Somerset to Yorkshire.

In other regions of England and Wales and in much of Europe more complicated geology would have thwarted such a straightforward extrapolation. However, his observations and documentation of the sequence of sedimentary rocks in southern and eastern England, now taken for granted, became the conceptual model that has underpinned the explorations of generations of geologists who have extended it nationally and internationally into more complex terrains. Knowing the stratigraphic sequence and one's location within it, became a powerful tool in the quest for fossil fuels: then coal, now gas and oil.

Communicating this knowledge was Smith's immediate problem, which is where John Cary enters the story.

## Developing the map[8]

According to H.G. Fordham, his bibliographer, John Cary was the first modern cartographer to emerge from a tradition of mapmakers of county atlases and maps characterised by 'pudding-bowl' hills, heraldic shields and ornate cartouches.[9] He was a prolific engraver and publisher who organised accurate surveys. 'Cary may be claimed to have first combined care and beauty of design, with something really approximate to geographic accuracy.'[10] In this paper only his maps that are relevant to William Smith's work are considered.

Cary's 1794 atlas, *Cary's New Map of England & Wales, with Part of Scotland*, is strikingly modern in several respects.[11] Instead of individual counties represented at different scales – one per page – this atlas has continuous mapping on each page that abuts the mapping on adjacent pages, and all at a constant scale of 1 in to 5 m/1 cm to 3.2 km/1:316,800. It was the first atlas to include the Prime Meridian through Greenwich (not London or St Paul's). It has an index map to the 81 sheets. On each page a tiny diagram indicates the page numbers of adjacent maps. Cary had triangulated the position of, and measured the distances between, all the towns named.[12] Such features, now taken for granted, were revolutionary in late eighteenth-century Britain. The individual engraved plates were designed so that, when assembled,

they formed a single large map, published at the same time as the atlas.

This successful atlas was revised in 1816 and 1832, with several impressions between 1822 and 1834. In 1796 Cary published a reduced version at 1 in to 15 m/1 cm to 10 km/approx. 1:959,400 which itself went through numerous editions and impressions from 1805 to 1844. William Smith's 1815 'map and its reduction (of 1820) are, no doubt, founded on Cary's large map of 1794, and the reduction of 1796'.[13]

Although it is not known when John Cary first met William Smith, he would have been aware of him from an early stage. Fordham lists an undated pair of Cary's plans, entitled 'Plan of the Proposed Somersetshire Coal Canal ... to join the Proposed Kennet and Avon Canal' and 'Plan of the Proposed Deviations of the Somersetshire Coal Canal...', both surveyed in 1793 and presented at 1 in to a ¼ m/ 1 cm to 1.6 km/approx. 1:15,840.[14] These plans were prepared to inform enabling legislation and were engraved between 1793 and 1796 from drawings prepared by Smith as surveyor of the Somersetshire Coal Canal Company.

Cary would have been familiar too with geology to the extent that weathered rocks form soil parent material. A Cary map, not listed in Fordham, of Kent, 'Engraved for Mr. Boy's Agricultural Account of Kent', 1796 shows chalk, rag-stone hills, the Weald and marshes, bounded by pecked lines and indicated by hand-colouring explained in a legend. (Fig. 3)




**Fig. 3 A soils map: 'Engraved for Mr. Boy's AGRICULTURAL ACCOUNT of Kent', by John Cary. It appeared as the frontispiece of John Boy's *A General View of the Agriculture of the County of Kent*, 1796. The map itself is not dated but appears to have been altered from *Cary's New and Correct English Atlas: being a New Set of County Maps from Actual Surveys*, 1787 or the second edition of 1793. 28 x 23 cm/11 x 9 in. Scale 1 cm to 4.4 km/1 in to 7 m/1:443,500. The prose legend describes soils in terms of the underlying rocks followed by the names of colours with spaces for the colourist to insert the appropriate colour. This is a proto-geological map. Courtesy, www.geolmaps.com**

The legend also shows painted patterns for stony parts, deep clay and gravelly parts.[15] This soils map is a proto-geological map.

Cary reverted to the county format in 1809 in *Cary's New English Atlas; Being a Complete Set of County Maps, from actual Surveys*. The county maps in the 1818 state of this atlas became the basemaps for Smith's 'A New Geological Atlas of England & Wales', issued in 'parts' between 1819 and 1824.[16]

Returning to William Smith: between 1801 and 1806 he attracted several major landowners as subscribers to his proposed map of the strata including Sir Joseph Banks, the Duke of Bedford and the Earl of Leicester. In 1805, the Minister for Agriculture, Sir John Sinclair, proposed that Smith be engaged by the then new Ordnance Trigonometric Survey 'for the purpose of connecting my survey of the strata with their large maps'.[17] Although nothing came of this, it is clear that Smith was becoming known in the land-owning and mapmaking world of his day. Cary would have known, or been aware of, William Smith and his proposed map, and the interest of a significant market sector for such a map.

Smith recorded his collecting style in his 1801 diary: 'My journey from Bath to Holkham, was performed on horseback, by the guidance of Cary's one-sheet England. The same map was used in my return across the Fens to Peterborough, where I recognised Cornbrash; and, lest I should not recollect the sites, extent, and intricacies of this and rocks in the series below it, so well known in Somersetshire, I ... sketched a section of all the ascents and descents on the road, and marked the stone-quarries, outcrops of the rocks, and other strata thereon'.[18]

Initially, he engaged John Debrett to publish the map he was developing, but Debrett's bankruptcy in 1804 closed this option. The Debrett concept had been a memoir with a small map. A letter from John Farey (Smith's friend and 'student') to Sir Joseph Banks reveals that Debrett's bankruptcy had 'deranged Mr. S.'s plan; and he seems now to think ... with sufficient encouragement, it would be of more utility to publish a large and separate Map'. In the same letter, Farey describes 'a minute examination of a Map of England (7 ft 4 ins by 5 ft 10 ins/[2.2 x 1.7 m]) on which Mr Smith has delineated the outcropping or Surface made by the different Strata'.[19] By its size and date, we can assume that it is Cary's 1794 map.

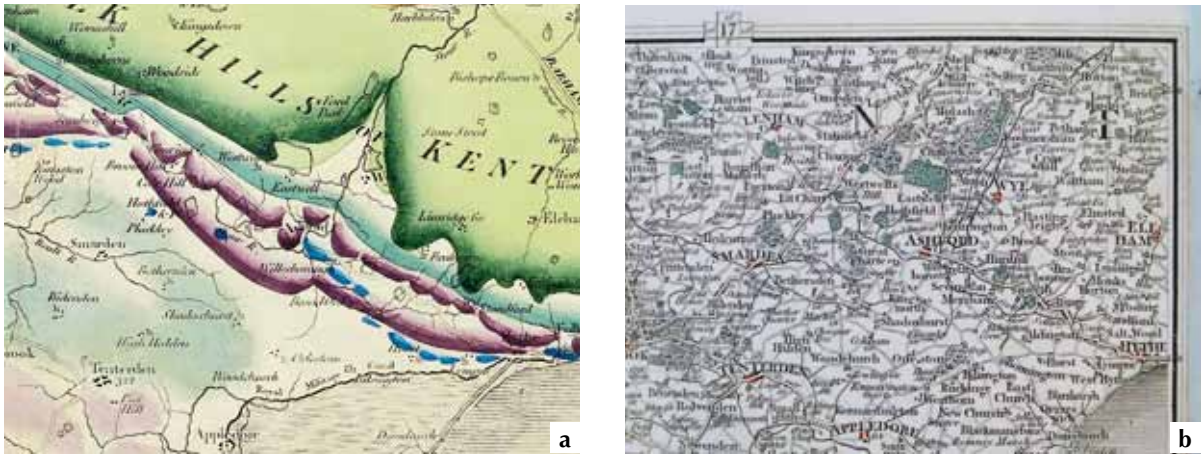
Smith had no clear idea how the information he was gathering would be published without Debrett, but he carried on collecting and recording for eight more years. His financial problems, despite the 'constant liberality and encouragement from Sir Joseph Banks and a few other friends of science, meant that the preparation of a great and costly Map of England and Wales was entirely beyond his power, and his spirit must have sunk in unequal conflict with accumulating difficulties *but for the courage and resolution of Mr. Cary*. The maps of this eminent engraver had for a long time enjoyed the highest reputation. ... On these maps, full of names and designations of political geography, colouring of the lines of strata was impracticable; and Mr. Cary undertook the drawing and engraving of a new and very elegant large map, which, instead of political divisions, should be richly marked by names of natural districts, and by a full delineation of the innumerable small streams, whose distribution is an important feature of physical geography'.[20] Smith recalled: 'The end of 1812 brought me a proposal from Mr. Cary to publish my Map of the Strata. Terms were soon settled, and the work commenced with beginning of January 1813'.[21]

## Colouring the map

The most noticeable aspect of 'A Delineation of the Strata of England and Wales and part of Scotland' is the style of colouring which Smith devised and which remains nearly unique to him.[22] Geological maps use colours to designate rock formations and their extents on the earth's surface. To indicate that the rock formations are in layers and the direction of the geological sequence, he specified that the older, lower part of each formation be distinguished by saturated colour while the younger part was a lighter tone of the same colour. (Fig. 4a, overleaf) This technique gives the map an almost three-dimensional appearance, but it was costly to produce and Smith rejected copies that didn't match his vision. After Smith, geological maps have 'flat' colours and arrows indicate dip direction – a much more economical method.[23]

Initially, Smith attempted to use earth colours to match the rocks – shades of yellow, grey, brown and red – but soon it was apparent that there were not enough colours. Smith's choices were adopted by his successors and to a large extent became standard colours, still used today, internationally: pale yellows for alluvium and recent marine deposits, pale greens for chalk, pinks for granites, mauves for slates, browns for some clays, blues for limestones.

In his 1815 diary, Smith recorded the colouring of




**Figs. 4a & b Examples of maps of Kent comparing a detail from (a) Smith's 1815 map with the source for the base map (b), *Cary's New Map of England & Wales, with Part of Scotland*, 1794. Cary decluttered his map of place names and boundaries. He added topographic names suggested by Smith and drainage detail. Note Smith's use of saturated colour along the older, lower layers of the formations. Courtesy, (a) Daniel Crouch Rare Books and (b) www.geolmaps.com**

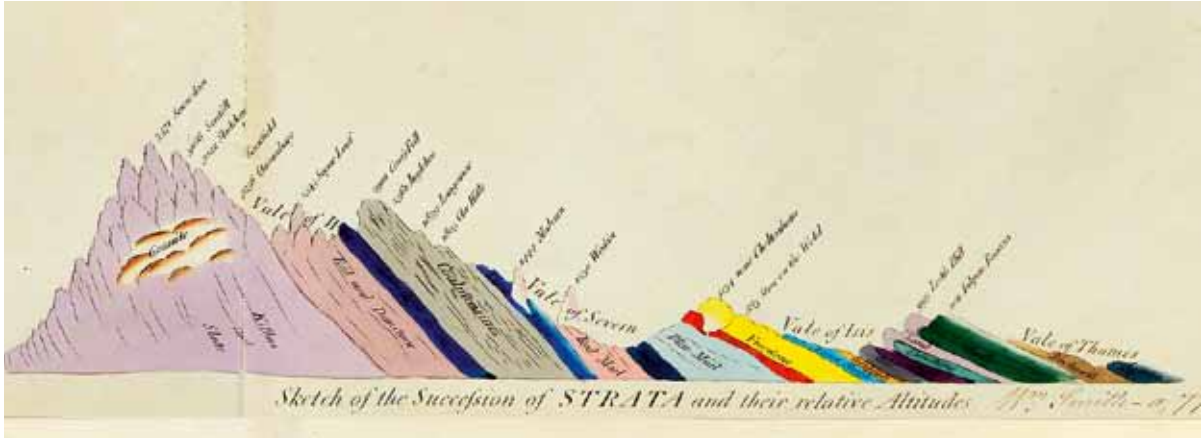



**Fig. 5 Detail from 'A Delineation of the Strata of England and Wales', 1815. Smith checked each map for accuracy and quality of colouring, before signing and numbering each map under the schematic cross-section located below the title block. Courtesy, Daniel Crouch Rare Books, crouchrarebooks.com**

the first full map mounted on canvas. It was started on 14 May and was ready for delivery on the 23rd.[24]

This copy was for the Royal Society of Arts to which Smith had applied for an award first offered by them in 1803 for a mineralogical map of England and Wales.[25]

Smith checked each map closely for errors. In his diary he frequently recorded days spent: 'making small additions and corrections'; 'strengthening and correcting colors' [*sic*]; 'writing down errors on 9 sheets'; 'talked to him (Cary) about slovenly manner' of ... 'some of the coloring'; 'with Mr. Cary pursuing improvements and corrections in the lines of strata colors'; 'quarrelled with him about the coloring'.[26]

The colourists worked from 'pattern' copies. Three of Cary's colourists are named in Smith's diaries. In many instances he recorded the endeavours of Morse, Trout, and Mitchell, and the particular copies that they coloured. When he finally approved each map, Smith signed and numbered the copy, fairly inconspicuously, below the geological section located in the German Ocean (North Sea). (Figs. 1 & 5) A more conspicuous engraved signature and date, 15 August 1815, appear on the title block on all maps, but we know from his diary that the first issue was on 23 May; they continued as late as, albeit sporadically, the 1830s.[27]

Smith signed 300 maps in series 1-100, a1-a100




a




b




c



*Above* **Fig. 7 'A New Geological Map of England and Wales', 1820 by William Smith. 80.5 x 66.5 cm / 36 x 31.75 in, scale 1 cm to 9.5 km / 1 in to 15 m / 1:950,400. Cary edited his existing 1796 map, 'Cary's Reduction of his Larger Map of England and Wales, with Part of Scotland' to prepare an uncluttered base map for Smith's geology. Courtesy, D. Williams.**

*Left* **Figs. 6a, b & c Smith continued to revise his map in the light of information received even while the engraved map was being coloured. Variations have been noted on the Isle of Man, the Lake District, the Cheviot, and in parts of Yorkshire: however, the Isle of Wight provides the clearest example of variations in the issues: (a) unnumbered early series; (b) map a77; (c) late unnumbered series. Courtesy, (a & c) GSL; (b) Daniel Crouch Rare Books.**

and b1-b100. Several unnumbered sheets were issued before and after these series. Four hundred subscribers were listed in the memoir issued with the map but the total issued is less, as not all paid. Currently just over 70 surviving copies are known.[28] The early, unnumbered sheets are very rare. They can be distinguished from the late unnumbered sheets by revised geological detail, most notably in the Isle of Wight. (Figs. 6a, b & c)

Smith anticipated selling 750 maps. He recorded that Cary would pay him £1.5s.25d. for each copy sold.[29] Smith was in financial difficulties related to a failed quarry venture on his property near Bath. At the same time as he was checking and signing off his maps, he was negotiating the sale of his rock and fossil collection to the British Museum to raise money to stave off bankruptcy. Cary charged £5.5s for the map, with the memoir issued as 15 sheets, and £7 issued mounted on canvas and rollers.

### Other maps

Cary, ever the entrepreneur, sought other ways to present Smith's valuable geological information in order to overcome the losses on the 1815 map. In 1820 he published a 'poster' version of Smith's map, 'A New Geological Map of England & Wales, with the inland Navigations; Exhibiting the Districts of Coal and other Sites of Mineral Tonnage', dated 18 March 1820, at a





**Fig. 8 'Geological Map of Kent', 1819, by William Smith. 51 x 59 cm/ 20x 23 in; scale 1 cm to 2.2 km/1 in to 3.5 m/1:221,760. Kent was one of 21 counties published in the uncompleted *A New Geological Atlas of England and Wales* between 1819 and 1824. The base maps are from Cary's 1818 impression of his 1809 *Cary's New English Atlas; Being a Complete Set of County Maps*. They were not altered to accommodate the geology as was the case with the national maps of 1815 and 1820. Each of the published geological county maps is so titled in the top margin, but retains the original map title and a list of the lathes and hundreds into which the county was divided. The geological boundaries were added as thin dashed lines and the legend of geological formations are arranged around the edge of the county in 'tablets' opposite the formations described. Courtesy, www.geolmaps.com**

**Fig. 8a Detail of 'Geological Map of Kent', 1819, showing 'tablets' of colour with a geological description arranged opposite the formations which they describe, instead of being arranged in a table as a legend as in Smith's 1815 map. By inserting information where it would fit on existing county maps from his *Cary's New English Atlas; Being a Complete Set of County Maps*, Cary avoided the costly business of engraving new plates.**

scale of 1 in to 15 m/1 cm to 10 km/approx. 1:950,400. It was priced at 14 shillings or, on rollers, at 18 shillings.

Based on his 1796 reduced map, he re-engraved it for Smith's basemap to reduce clutter and emphasise drainage.[30] It appears that he directly reduced the geology from the 1815 map; however, he coloured parts of Ireland and France, Smith had not worked. The source of this additional geological information is unknown. This map was re-issued without alteration in 1824 and 1828.[31] Smith's 1820 map is rarer than his 1815 map, in this author's experience. (Fig. 7)

Cary aimed for a larger scale when he began A *New Geological Atlas of England and Wales* in 1819. It was based on county topographical maps from the 1818 state of his 1809 atlas. The maps were issued in 'parts' of four, costing £1.1s. per part or 5s.6d per sheet. Geological boundaries and a standard title were added to the unedited existing plates. Legend elements, rather than listed in a block (Figs 8 & 8a), were arranged as 'tablets' around the county's perimeter, as space permitted, beside the formation described.

The county geological atlas was never completed. Only six parts of 24 maps were published, compared to 46 maps in the original county atlas. These covered 21 counties; Yorkshire required four sheets (See Table 1). The work appears to have been halted abruptly: 'Other parts to complete this work were left by Mr. Smith in a state of forwardness'.[32] Among Smith's papers at the Oxford University Museum of Natural History (OUMNH) are manuscript maps of Northamptonshire, Cambridgeshire, Lancashire, Staffordshire and Monmouthshire in various states of readiness for the engraver but they were never published as geological maps.[33]

Later editions of Cary's (non-geological) *New and Correct English Atlas*, used plates engraved for the geological atlas but coloured administratively. These include Northamptonshire, Somerset and Lincolnshire.[34] Occasionally these maps turn up as loose sheets by G. & J. Cary and, later, by G. F. Cruchley.[35]

While Cary was producing the first parts of the county geological atlas and the reduced geological map, Smith's fortunes approached their nadir. In the summer of 1819 he was incarcerated for ten weeks in a debtor's prison and lost his property. He left London to drift with his nephew, John Phillips, to the north of England, continuing to consult and moving from

| Year | Part | Counties |
|---|---|---|
| 1 Jan. 1819 | 1 | Berkshire, Gloucestershire, Kent, Norfolk |
| 1 Sept. 1819 | 2 | Suffolk, Surrey, Sussex, Wiltshire |
| 1 Feb. 1820 | 3 | Bedfordshire, Buckinghamshire, Essex, Oxfordshire |
| 1821 | 4 | Huntingdonshire, Leicestershire, Nottinghamshire, Rutland |
| 1821 | 5 | Yorkshire – 4 sheets |
| 1824 | 6 | Cumberland, Durham, Northumberland, Westmoreland |

*Left*
**Table 1: Published maps of the incomplete *A New Geological Atlas of England and Wales.***

job to job. Eventually, he settled at Hackness, near Scarborough, between 1826 and 1832, and then in Scarborough until 1839.

As John Cary's business grew, his role became more managerial. After 1800 his maps were 'published' by J. Cary; they were no longer marked 'sculpt' or 'engraved' by J. Cary. His sons, George Cary (1787–1859) and John Cary 2 (1791–1852) worked for him (George as apprentice from 1802) soon becoming assistant managers, indicating a sizeable firm.

On 17 January 1820 a fire completely destroyed their premises[36] at 181 The Strand and the adjacent premises of William Cary (1759–1825), instrument maker and John senior's brother.[37] A planned move to 86 St James Street was accelerated, but the fire appears not to have affected map production, as far as Smith was concerned. It may account for the loss of Cary's business records. In 1821, when he was 67, his sons took over the business as partners G. & J. Cary.

### Other Cary–Smith publications

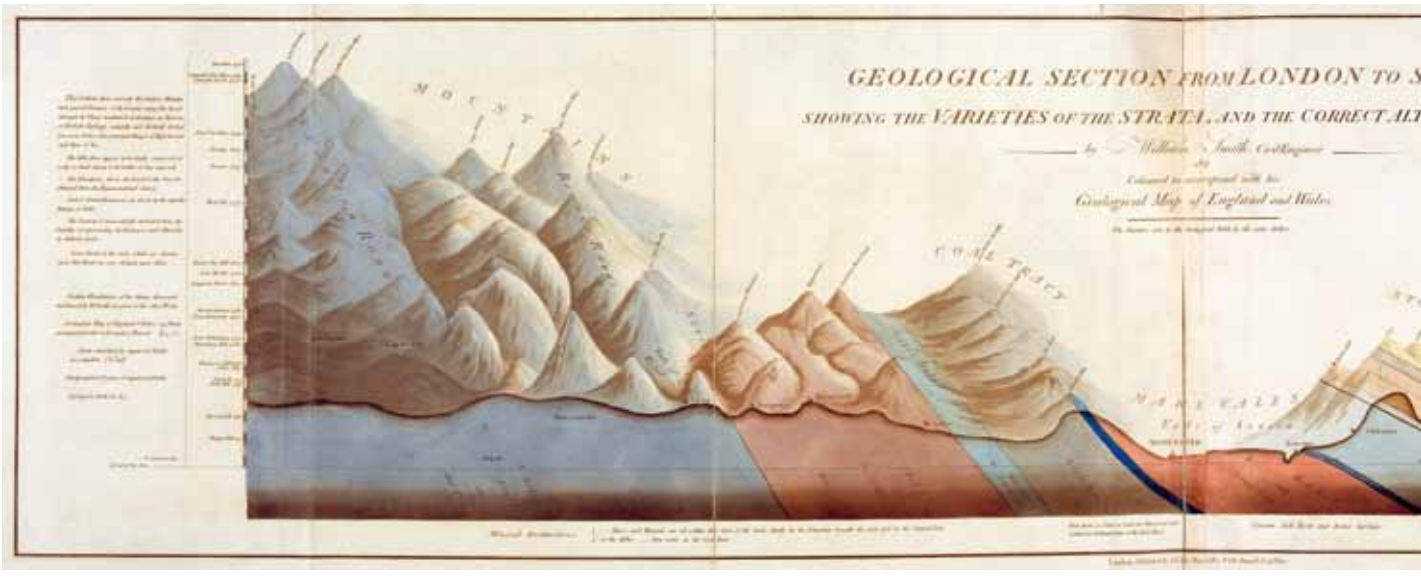
Smith was very concerned to illustrate the underlying geological structure to bring the third dimension to his map. He published a series of six cross-sections or profiles from 1817 to 1819 using the same formation colours as his map and incorporating panoramas of the landscape. (Fig. 9, overleaf)

### The financial failure of the map

Smith's 1815 map and subsequent works were financially disappointing in his lifetime. Why? Primarily, William Smith was ahead of the market; popular interest in geology and demand for geological maps did not develop until the 1830s but then expanded greatly for most of the nineteenth century.[38] Secondly, Smith's magnum opus coincided with the economic depression following the end of the Napoleonic wars. Within this unpromising period there was also rivalry; the Geological Society of London's 'Geological Map of England and Wales', dated 1819 but issued in February, 1820, had been anticipated for years and may have blighted Smith's sales. As a collaborative effort of the GSL's fellows headed by George Bellas Greenough (1778–1855), first president and chair of the map committee, it promised to be more detailed.[39] Although Greenough and the GSL were openly dismissive of Smith's concept, they plagiarised his map. When finally published, Greenough's map cost £5, undercutting further sales of Smith's large map. However, minutes of the GSL map committee indicate that their map was not selling well either.[40]

While general cultural and economic factors partly explain the financial failure, personal factors also contributed. Smith was a perfectionist. He chose a colouring technique that was difficult to produce well, which led to a high rejection rate wasting time and effort. Having to work for a living, Smith was unable to devote his attention wholly to his publications. His delays in producing the map, before Cary took him in hand, lost him subscribers.

John Cary was 58 years old when he offered to produce and publish Smith's map (Smith was 43). His sons witnessed Smith's perfectionism and his financial crisis. It is probable that they felt less of their father's personal commitment to Smith. When




they took over the business in 1821, it included their Uncle William's optical and instrument business, they were rebuilding after the fire, and their father was 67. They probably took a harder commercial view of the poor sales and may have noted that the Greenough/GSL map was not selling well either. They persisted with the atlas project which did not require the engraving of new plates; however, it must have been difficult to progress the project when Smith was on the move in the North with no fixed address between 1819 and 1826. The evidence of the uncompleted county geological plates and manuscript maps signals an abrupt end half way through the atlas project in 1824. The inclusion by G. & J. Cary of the geological plates, coloured administratively, within later issues of the conventional atlas, suggests that economy took precedence.

Smith was the right man in the right place at the right time – scientifically but not, perhaps, socially. Recognised by landowners, of all ranks, as a man of many talents, he was not accepted by the gentlemen geologists who had, in 1807, established the first geological society in the world.

**Recognition**

Despite the financial failure of his maps, William Smith's great geological insight and his immense individual effort, persistence and personal sacrifice to realise his vision in maps and sections were recognised during his lifetime.

In 1826 Sir John Johnstone employed Smith as land-steward of his estate at Hackness. He intended this as a sinecure to provide Smith time and accommodation to assemble his papers and write. Instead, Smith produced a remarkable geological map on the estate's plan at 6.5 in to 1 m/1 cm to 100 m/ approx. 1:9,748, published in 1832. Johnstone was instrumental in realising Smith's vision of a geological museum, which opened in 1829 and still exists today as the Rotunda Museum in Scarborough.[41] Smith lived at Hackness for 'six of the happiest and calmest years of his declining life'. [42]

In 1831 the GSL awarded Smith the first Wollaston Prize of £20, its highest honour, in recognition of his great and original achievement. At this meeting, Professor Adam Sedgwick honoured Smith as 'the father of English geology'. In the following year, the GSL cast a gold Wollaston medal and presented it to Smith at the British Association for the Advancement of Science (BAAS) meeting in Oxford.[43] In 1832 the Crown awarded Smith an annual pension of £100. Phillips attributed this to lobbying by the BAAS.[44] The pension enabled Smith to retire to Scarborough. In 1835 Trinity College, Dublin, awarded him the degree of LL.D., while he was there attending the annual BAAS conference.

Posterity, although useless to Smith, also recognises his great achievement and the injustice he experienced from Greenough and, initially, from the GSL. Smith's 1815 map typically fetches, in the salesrooms today, six to eight times the value of Greenough's rarer and more detailed map. William Smith was first, and he achieved his map against great odds with the vital support of John Cary.

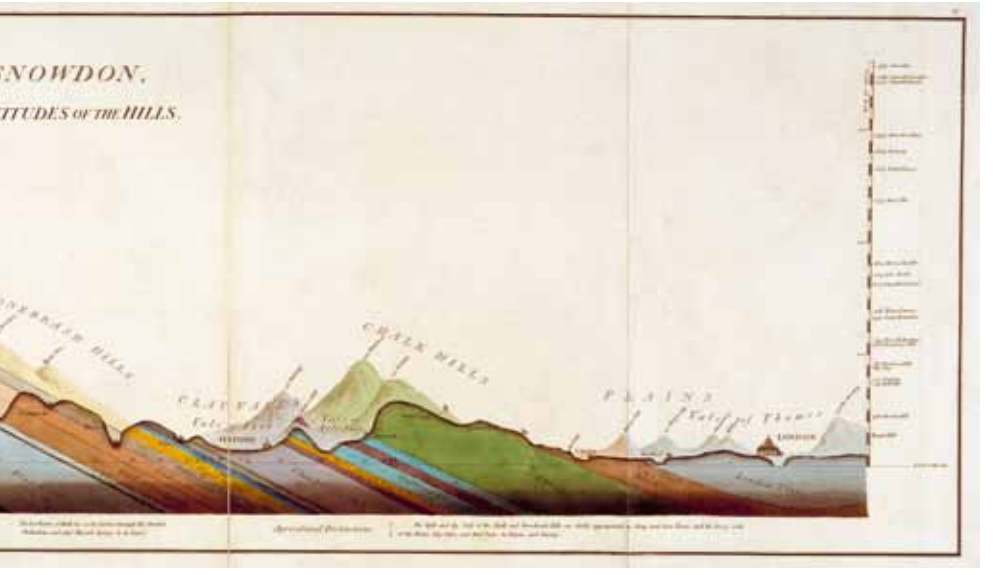



**Fig. 9 'Geological section from London to Snowdon, Showing the Varieties of the Strata, and the Correct Altitudes of the Hill' William Smith, 1817. This is one of six cross-sections or profiles coloured to correspond to his 1815 map and numbered with reference to his Geological Table of British Organised Fossils, which Identify the Courses and Continuity of the Strata in their Order of Superposition, 1815. The landscape associated with the geological formations is represented above the section. John Cary published the sections and table. The other sections are: London to Cambridge; Surrey and Sussex (London to Brighton); through Hampshire and Wiltshire to Bath; and through the counties of Dorset and Somerset to Taunton. Courtesy, Geological Society of London.**

**Notes**

**1** The full title is 'A Delineation of the Strata of England and Wales, with part of Scotland: Exhibiting the Collieries and Mines, the Marshes and Fen Lands originally overflowed by the Sea, and the Varieties of Soil according to the Variations in the Substrata, Illustrated by the Most Descriptive Names'.

**2** John Phillips' *Memoirs of William Smith, LL.D., author of the 'Map of the Strata of England and Wales*, 1844, is the primary source for Smith scholars, together with remnants of Smith's correspondence and papers which Phillips left at Oxford University Museum of Natural History. Phillips (1800-1874) was Smith's nephew who came into his care in 1808 when Smith's recently widowed sister died. Smith paid for his nephew's private education until financial difficulties – his own and the school's – brought this to an end in 1815, when Phillips came to live with Smith in London. Phillips went on to become the first professor of geology at Oxford (William Buckland was first reader in geology there) where he designed, and was first curator, of OUMNH.

**3** Hugh Torrens, 'Introduction to the Life and Times of William Smith', in J. Phillips, 1844 re-issue of BRLSI, 2003a.

**4** Phillips, p. 5.

**5** Phillips, p. 9.

**6** Phillips, p. 13.

**7** Phillips, pp. 29-30. Smith dictated the 'Order of the Strata' to his friend the Rev. Benjamin Richardson in the presence of their mutual friend. Each took a manuscript copy 'under no stipulation as to the use which should be made of it, and accordingly it was extensively distributed in manuscript copies'. Richardson's original manuscript was donated to the Geological Society of London in 1831.

**8** Cary scholars are dependent on H.G. Fordham's *John Cary, Engraver, Map, Chart and Print-Seller and Globe-Maker, 1754–1835.* Unlike the scholarly trail following Phillips, Fordham appears to have no successors, apparently because there is no documentary record of correspondence, contracts and publications from Cary, other than his abundant map legacy. Fordham reflects this in the sub-title – *A Bibliography with an Introduction and Biographical Notes.* The biographical notes are skeletal, being totally reliant on birth, marriage and death certificates, probate records and commercial directories.

**9** Henry C. John, and Thomas Hose, 'The Contribution of Maps to Appreciating Physical Landscape: examples from Derbyshire's Peak District', 2015 (in press) in T.A. Hose, ed. *Appreciating Physical Landscapes; Three Hundred Years of Geotourism*, Geological Society of London Special Publication series, London. No. 47, 2013.

**10** Fordham, p. xxxiii.

**11** The full title is 'Cary's New Map of England & Wales, with Part of Scotland On which are carefully laid down All the Direct & Principal Cross Roads, the Course of the Rivers and Navigable Canals, Cities, Market & Borough Towns, Parishes, and most considerable Hamlets, Parks, Forests Etc. Etc. Delineated from Actual Surveys; & materially assisted from Authentic Documents Liberally supplied by the Right Honourable the Post Masters General. London, June 11th, 1794'.

**12** Current work registering digitised Smith's maps – national and county – with modern Ordnance Survey based maps encountered serious matching problems with coastlines and drainage features, but had exceptionally good registration with town centres. This confirms that Cary measured and triangulated between towns and that he worked accurately. (Personal communication, Peter Wigley, *The Map that Might Have Been*, an online map combining all of Smith's published maps and sections and manuscript maps in preparation, due on-line December, 2014).

**13** Fordham, p. 97. The full title is 'Cary's Reduction of his Larger Map of England & Wales, with part of Scotland Comprehending the Whole of the Turnpike Roads, with the Great Rivers & the Courses of the Different Navigable Canals: Also, the Market & Borough Towns, and Principal Places adjoining the Road. To which is added, The actual distance from one Market Town to another, With exact measurement prefixed to each from the Metropolis', 'published By Order of, And Dedicated (with Permission) to The Right Honourable The Post Masters General 1796'.

**14** Fordham, p. 53.

**15** John Boys, *A General View of the Agriculture of the County of Kent; with Observations on the Means of its Improvement, Drawn up for The Consideration of the Board of Agriculture*, 1796. The accompanying map by Cary measures, 28 x 23 cm (11 x 9 in), scale 1 in to 7 m/1 cm to 4.5 km/approx. 1:443,500. The Board of Agriculture commissioned several county reports; there may be more Cary soils maps that escaped the notice of Fordham. The on-line cartobibliography of Kent maps, www. oldkentmaps.co.uk, by Tony Burgess, records four known copies of John Cary's map for John Boy's agricultural account.

**16** Fordham, p. 106. The full title is Cary's *New English Atlas; Being a Complete Set of County Maps, from actual Surveys, corresponding in size with his General Atlas; On which are particularly Delineated Those Roads which were measured by Order of the Right Honourable the Postmaster-General, By John Cary, As well as all others, both Direct & Cross; Rivers, Navigable Canals, Parks, Heaths, Commons, Etc. Etc. Exhibiting also The whole of the Market & Borough Towns, Parishes, & Hamlets, as well as Places of inferior Note. To which is added A Copious Index, containing references to the Hundreds Etc. in which the Places are situated, the number of Houses,*

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*The Populations, & the amount of the Poor Rates paid by each, as stated in the returns made to Parliament*. London: Printed for J. Cary, Engraver & Map-seller, No. 181 near Norfolk Street, Strand, London, 1809.

**17** Phillips, p. 46.

**18** Phillips, p. 35.

**19** Joan M. Eyles, 'William Smith (1769–1839): A Bibliography of his Published Writings, Maps and Geological Sections, Printed and Lithographed', *Journal of the Society for the Bibliography of Natural History*, Vol. 5, Part 2, 1969a, pp. 87-109.

**20** Phillips, pp. 70–71.

**21** Phillips, p. 72.

**22** In 1834/35, Elias Hall (1764–1853) of Castleton, Derbyshire published *'A Mineralogical and Geological Map of the Coalfield of Lancashire with parts of Yorkshire, Cheshire and Derbyshire'* at 1 in to a mile/1 cm to 634 m/1:63,360 and coloured in the style of William Smith. As few copies of it survive, it is unclear how widely it circulated. (Torrens & Ford, 2011).

**23** Later, the angle of dip (tilt of the layers) in degrees was added and the arrow became a T with a short stem and a long top; the stem of the T pointed in the downward direction of dip, and the top of the T showed the strike or axis of the dip.

**24** Cox, p. 46.

**25** In *Premiums offered by the Society Instituted at London, for the encouragement of Arts, Manufactures, and Commerce*, MDCCLIX, Item 117. 'Mineralogical Map of England and Wales. To the person who shall complete and publish an accurate mineralogical map of England and Wales, on a scale of not less than 10 miles to the inch, containing an Account of the situation of the different mines therein, and describing the kinds of minerals therein produced: the Gold Medal, or Fifty Guineas'.

**26** Cox, pp. 46–48.

**27** The unnumbered map hanging in the Geological Society's apartments in Burlington House, Piccadilly, London, has a watermark of 1836. (Personal communication with Tom Sharpe, National Museum of Wales, May, 2013).

**28** Personal communication with Tom Sharpe, National Museum of Wales. The NMW has the largest collection of William Smith's 1815 map.

**29** The United Kingdom changed to a fully decimalised currency on 15 February 1971. Until then the pound sterling (£) was divided into 20 shillings (s) each of which was made up of 12 pennies (d) so that there were 240 pennies to the pound. In written notation for example, one shilling and sixpence would be written as 1s.6d. or as 1/6d. Ten shillings would be written as either 10s. or 10/-. The pound is now divided into 100 pence (p). So 50p = 10s. ; 25p = 5s.; 12.5p = 2s.6d. A Guinea equalled £1.1s, now £1.05.

**30** Cox, p. 48.

**31** Fordham, p. 97.

**32** Phillips, p. 149.

**33** Cox, p. 9.

**34** Davis, p. 389.

**35** Smith's maps persisted in this reduced form. G. & J. Cary sold the engraved plates in the 1840s to George Frederick Cruchley (1797–1880) who crudely added railway lines and published the retitled *Cruchley's Railway and Telegraphic Atlas* in 1855. Cruchley retired in 1876 and some of his stock and plates passed in 1877 to the Edinburgh firm of Gall and Inglis who published cycling maps and tourist guidebooks. Traces of Smith's geology persist in a copy of Cruchley's map of Wiltshire in the author's collection.

**36** D. Smith, p. 42.

**37** William Cary made the great theodolite used for the triangulation of India by Col Lambton, the Surveyor General for the East India Company (Insley, p. 5).

**38** Large, usually folded, national geological maps by J. & C. Walker and by James Knipe (Toland et al, 2013) and a 'poster-size' map by John Arrowsmith in the 1830s were followed in the 1840s by very attractive atlas maps by James Wylld II and the SDUK (Society for the Diffusion of Useful Knowledge). All, apart from from Arrowsmith's and the Walkers', were revised over several editions until the 1870s. The popularity of geology expanded with the advent of the railway and increased leisure time. Small pocket-sized geological atlases of county geological maps with railway lines were published by James Reynolds (1860, 1889), succeeded by Edward Stanford (1904). Large wall maps and folded versions of national geological maps were commercially published by successive directors-general of the Geological Survey – Murchison by the SDUK, and Ramsay and Geikie by John Bartholomew.

**39** Greenough loaned the money for the Geological Society's map, which was repaid from sales. Consequently the first two editions of 1820 and 1839 are attributed to Greenough. Only in the third edition of 1865, published posthumously, was William Smith's enormous contribution to its map acknowledged. The first edition had 34 geological formations to Smith's 23, and more detailed representation of the topography by hachuring; however, while more detailed, the density of the hachuring interferes with the perception of the colours.

**40** Minutes of the GSL Map Committee suggest that only 260 copies of the map seem to have been sold or distributed, with perhaps about 320 printed. Tom Sharpe in Wigley 2007, p. 7.

**41** Johnstone was president of the Scarborough Philosophical Society at this time and raised funds for a museum. Smith suggested a rotunda design to display fossils in their strata in their order of occurrence with the oldest rocks at the bottom of the museum and the youngest at the top. The visitor climbing a circular staircase could then rise through the succession of strata. Sir John donated the honey coloured Hackness Stone, a calcareous sandstone of the Kellaways formation (modern name) to build the Rotunda Museum. A mural of the geological section of the Scarborough coastline was painted by John Phillips on the ring supporting the cupola.

**42** Phillips, p. 113.

**43** The British Association for the Advancement of Science (now the British Science Association) was founded by the Rev. William Vernon Harcourt, largely in response to the elitist attitude of the Royal Society. It first met in York on 27 September 1831, chaired by the President of the Yorkshire Philosophical Society, Lord Milton. It had four sections – Physics, Chemistry, Geology and Natural History – in which papers were presented. The first secretary of the BAAS was John Phillips, William Smith's nephew, who had been active in the affairs of the YPS and, from 1825 secretary and keeper of the Yorkshire Museum.

**44** Phillips, p. 117.

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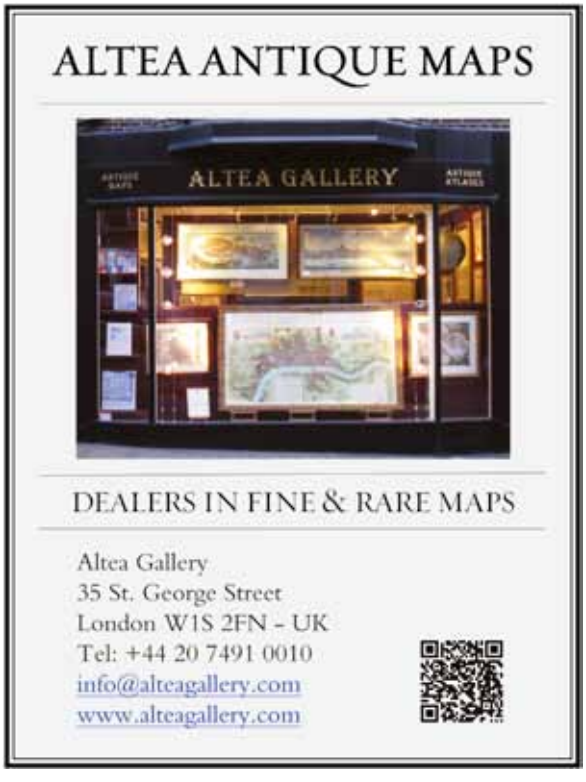
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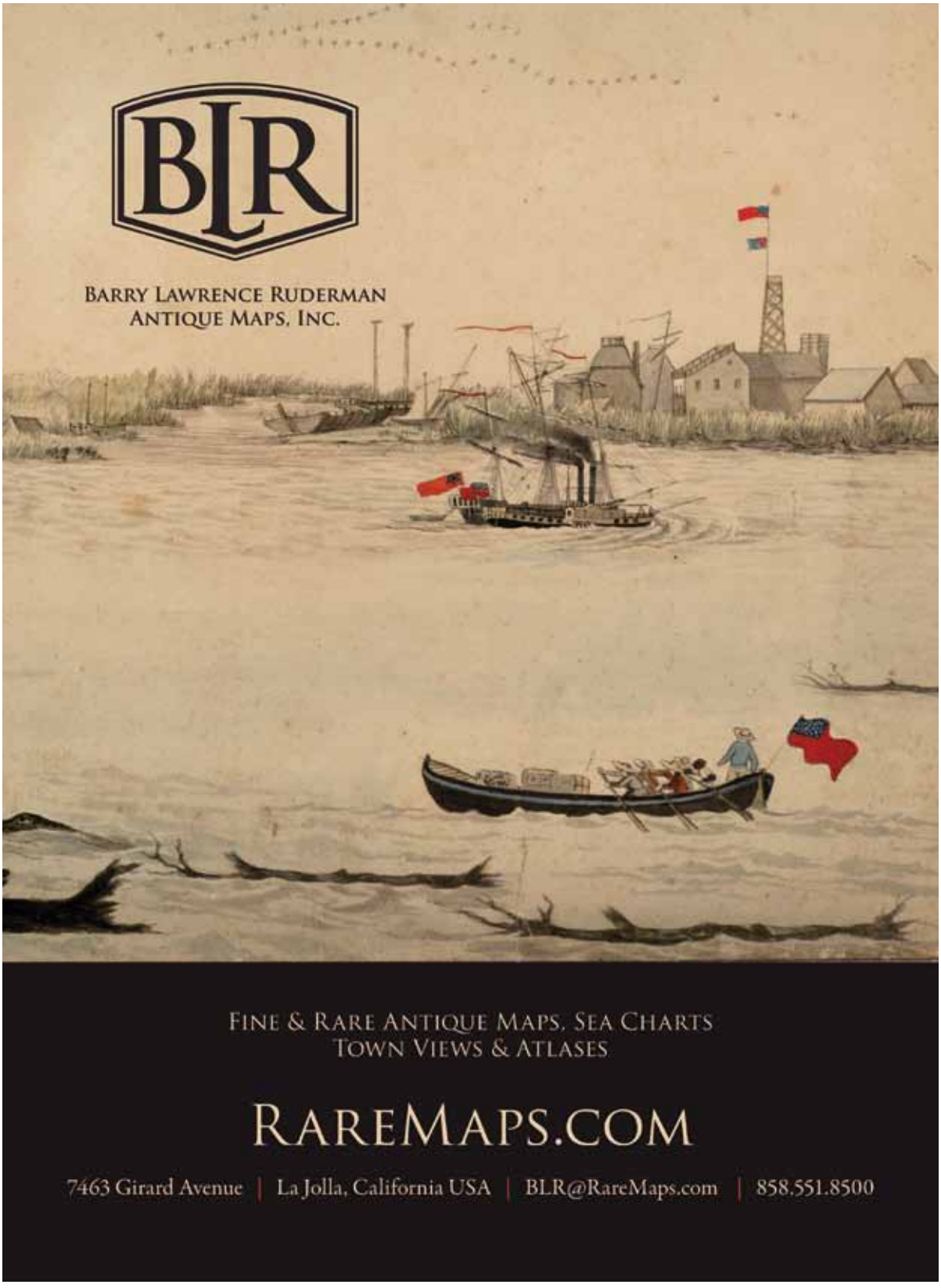
**John Henry** *established ARUP's air photo interpretation unit in 1973 and headed it for thirty years. He produced engineering soils map and terrain evaluations for developing areas, route selection studies, environmental impact studies and site contamination histories for sites projects in the United Kingdom and throughout the world. He built ARUP's large collection of topographic, geological and historic maps. In 1998 he started Nineteenth Century Geological Maps (www.geolmaps.com) to acquire and sell antique geological maps. Currently, he is chair of the History of Geology Group – HOGG – of the Geological Society of London.*

2015 is the bicentenary of William Smith's pioneering map, 'A Delineation of the Strata of England and Wales and part of Scotland'. HOGG is organising an international conference, *'200 Years of Smith's Map'* on 23–24 April 2015 at the Geological Society, Burlington House, Piccadilly, London.

The conference will be bookended by a private viewing of Smith's maps and collections at the Natural History Museum in London and by a field trip to Oxford University Museum and his birthplace, Churchill. Up-to-date bicentenary information including the conference can be found at www.geolsoc.org.uk/Events/William-Smith-Bicentenary

To register your interest in attending the conference please contact the organisers at wmsmith2015@gmail.com




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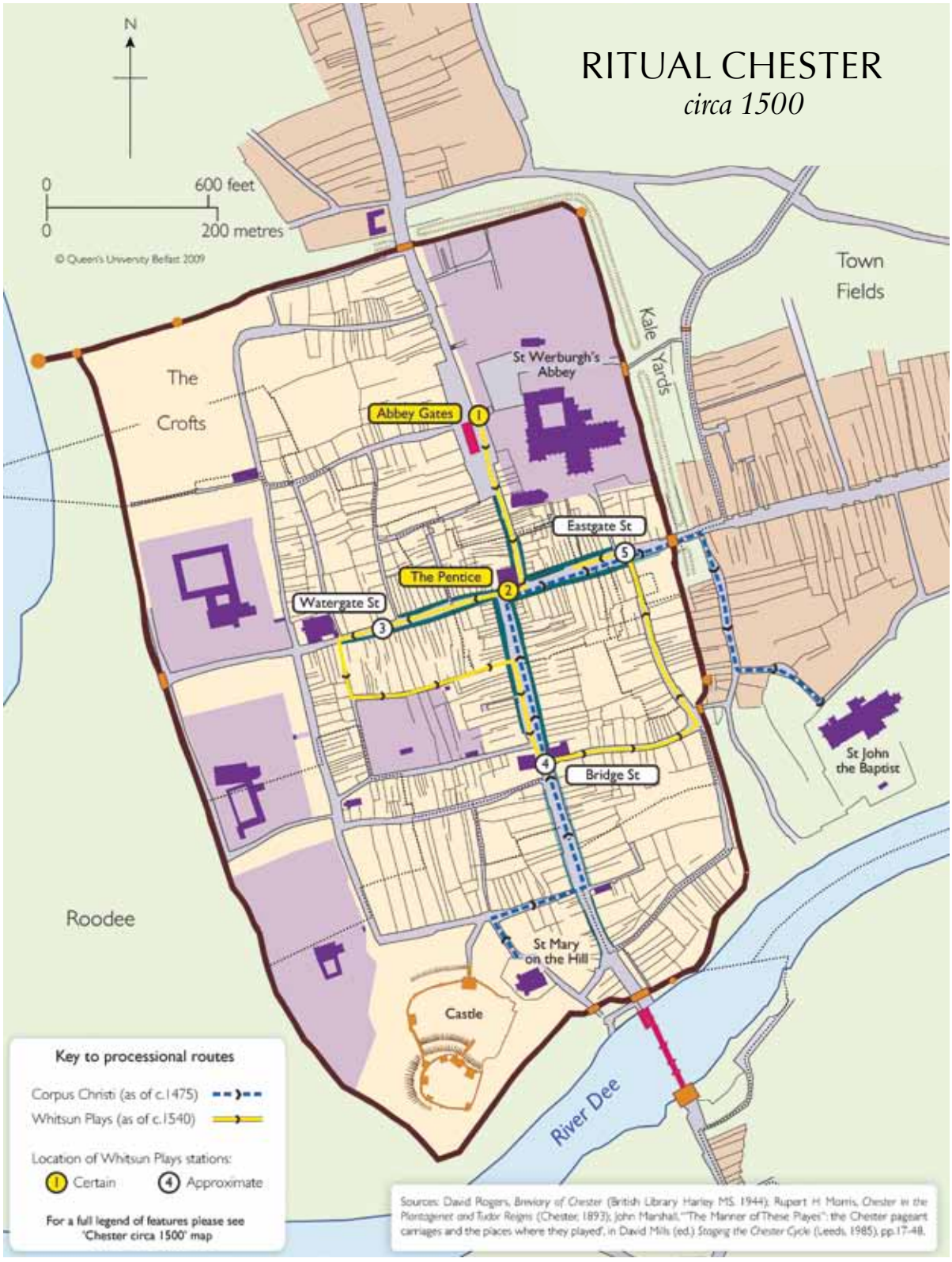



**Fig. 1 'Ritual Chester c. 1500' illustrates in yellow the pageant wagons' processional route through the city.**
**By permission of the *Mapping Medieval Chester Project*, www.medievalchester.ac.uk, accessed 27 September 2014.**

# PERFORMING A MAP

## *Visualising the world on a stage in medieval Chester*

**Meagan Loftin**

*This article is based on a paper presented at 'The Language of Maps Colloquium' at Oxford in June 2011.*

*All quotations from the play have been translated into modern English.*

The Banns of a medieval mystery play were intended to be read aloud at the beginning of the performance. The Early Banns of Chester's Whitsun Plays, also called the Chester Cycle, instructs the Drapers to 'look that paradise be all ready / Prepare also the mappa mundi / Adam and Eve'.[1] As God creates the earth on a stage in Chester, how did a medieval audience and how can modern readers view the performance as a 'mappa', or *cloth*, of the world? The play's concern with the delineations of spaces, their significance and who inhabits them calls to the use of medieval world maps as not only illustrations of space but also, as Evelyn Edson calls them, 'philosophical, religious and historical documents'.[2] Chester's play is exceptional in its concern for space when compared to the same sequence of biblical history in the other British cycles, and the association of the Chester Cycle with mapping is furthered by its sixteenth-century attribution to English chronicler and monk at Chester, Ranulf Higden (c. 1280–1364), author of the *Polychronicon*. Recalling maps of Paradise, both visually and narratively, from Augustine and Isidore of Seville to Higden, the play encourages its audience to view the world of the Chester Cycle as a kind of performed *mappamundi*.[3] How then does this mapping of biblical space on a stage in Chester affect the audience's sense of space and the use of maps, and what insight can modern readers gain concerning the perceptions of *mappaemundi* as a verbal or visual genre in medieval Britain?

### What did the plays look like?

The Chester Cycle as it was performed in the late fourteenth and early fifteenth century (when the first records of it appear) had a very different form than what we see in the manuscripts (dated to the sixteenth century).[4] Chester's Passion Play, as it was originally called, was first performed on a single day, Corpus Christi, at St. John's, outside the city's walls. Over time the performance grew to include more plays; each play was put on by a guild and the play usually correlated to that guild's service or wares. For example, the Water-Leaders and Drawers of Dee were responsible for the Noah story and the Bakers put on the Last Supper. The plays as they appear to us in the manuscripts took shape in the early sixteenth century. During this time the Cycle expanded to twenty-four plays performed over a three-day period at Whitsuntide. The last performance took place in 1575 after several years of sporadic performances and amid growing Protestant criticism. The manuscripts represent the Cycle during its last years of performance and, along with the city and guild records are our primary source of information. Though the documentary evidence of the Chester Cycle's text is late, the guild and city records, can help us to identify major shifts in the structure of the Chester Cycle.

Chester's records indicate that the plays were performed on pageant wagons that progressed through the city so that at each station the audience could witness all the plays successively. Jerome Taylor and Alan Nelson suggest that, unlike the York Cycle (with its forty-eight plays), Chester's twenty-four plays could be performed in a true processional because the cycle was split between three days.[5] William Tydeman, building on Taylor and Nelson, notes that this true processional would have been virtually impossible for the York Cycle because of its length and therefore, unlike in Chester, audiences in York would have only experienced a handful of the York Cycle's plays during any year.[6] The wagons on which the plays were performed travelled from Abbey Gate to the Pentice at St Peter's, then to Water Gate and Bridge Street and finally, East Gate. (Fig. 1) From the records in Chester we know that the wagons were open on the sides with a roof; some might have had a mechanism to lift an actor; and some may have been built with two levels for performance if the play required separate levels.[7] The two performance areas of all the plays were the *locus*, delineated by a distinctive piece of scenery where the central action would take place, and the *platea*, any space within the acting area (including the street) where action outside the central space (*locus*) occurred.[8]

This arrangement allowed for clear distinctions of space within the plays without having a stable performance area and also brought the acting space to the feet of the audience.

The Drapers' play is a combination of two stories: *Adam and Eve* and *Cain and Abel*. This play begins with the Creation, sees Adam and Eve expelled from Paradise and, after an interlude that stands in for a thirty-year lapse in time, ends with the death of Abel and Cain's banishment. Given the spatial requirements of the Drapers' play – spaces for the player God, Paradise, and earth – one may surmise that the pageant wagon might have contained a lifting mechanism to support the player God as he descended to Earth. Furthermore, the *locus* of the stage in the Adam and Eve story would have likely been the Garden of Eden, perhaps centred on the Tree of Life with the *platea* representing the space to which the characters are banished (the *locus* and *platea* would then have to change for the Cain and Abel section in which most of the action occurs at the sight of the sacrifice). (Fig. 2)



**Fig. 2 From Robert Chambers' *Book of Days* (1869), depicting his imagining of the pageant wagons (300 years later) with the *locus* of the wagon above the crowd and a possible *platea* space in front of the wagon at ground level. For the story of Creation and Adam and Eve, one can imagine the *locus* serving as the garden, while the *platea* represents the earth outside Paradise. Licensed under Public domain via Wikimedia Commons (http://commons.wikimedia.org)**

## Talking about space and place

The Banns introducing the plays lay out the structure and content of the cycle. As noted previously, the Early Banns (c. 1540) introduce the Drapers' play with the following: 'You worshipful men of the drapery / look that paradise be all ready / Prepare also the mappa mundi / Adam and Eve'.[9] The use of the term 'mappa mundi' invokes both the creation of the world that will take place on stage but also suggests a correlation between the act on stage and the act of creating a world map. Like other medieval world maps, this is not a navigational tool; instead the wordplay suggests that the Drapers' play is a diachronic visualisation of biblical history presented on a stage in Chester. The map of the play crosses time to connect medieval Chester with the biblical past when Adam and Eve inhabited Paradise.[10]

As the second play in the Chester Cycle, the Drapers' play, begins, God is located in heaven having made both heaven and earth in the Cycle's previous play performed by the Tanners, the *Fall of Lucifer*. The audience gets a doubling of the action here as God on the second day says, 'Now will I make the firmament /... and "heaven" it shall be called' (ll. 17, 22).[11] An analysis of the Drapers' play shows just how concerned it is with the physical landscape. The words 'earth' and 'earthly' appear in thirty-two of the play's 704 lines. The noun 'earth' appears with 49 percent greater frequency in Chester's Drapers' play as it does in the same sequence in York.[12] (Figs. 3a & 3b) Additionally, Chester's play makes clear distinctions between its spatial designations. Primarily 'earth' is juxtaposed with 'heaven' but in the scenes of expulsion (both Adam and Eve's and Cain's) 'earth' is the space to which the characters are banished, while 'place' denotes from where they have been banished.

'Earth' is where Adam is created and afterwards he is taken into Paradise 'a place of dainty and delight' (l. 110). The word 'place' appears often (twelve times) in the text – every time referring to a place of habitude and every time indicating a place from which the character will be banished. For example, Paradise, the habitude of Adam and Eve, is described after the Fall as 'this place of splendor and profit / that Adam lost thus hath' (ll. 387–9). Additionally, Cain describes the cities where he will wander, being refused at each: 'Therefore I will from place to place' but 'into what place that come I, each man will loath my company' (ll. 667, 671). Unlike the other cycles, Chester's Drapers' play never uses the two terms interchangeably.

The difference in the use of 'earth' and 'place' is most striking when each term modifies Paradise.




Fig. 3a Word cloud illustrating the frequency of nouns (excluding pronouns) in the Drapers' Play of the Chester Cycle. The relative size of the text for each word denotes how often that word is used in the play. Notice the frequency of 'earth' (30 occurrences) in the play's 704 lines in comparison with other common nouns such as the second most-frequent noun, 'man' (25 occurrences), which occurs 17 percent less often.




Fig. 3b Word cloud illustrating the frequency of nouns (excluding pronouns) in the same sequence (6 plays) of the York Cycle. Note that the frequency of 'earth' (22 occurrences) in the 851 lines of text covering the Creation, Adam and Eve, and Cain and Abel, is less robust than is seen in Chester's Cycle. Additionally, the frequency of 'earth' is nearly matched by a number other common nouns such as the second most-frequent noun, 'tree' (21 occurrences), which occurs only 4 percent less often.

While plotting the fall of Adam and Eve, Lucifer describes his motivation thus, 'Ghostly paradise I was in, / but thence I fell through sin. / Of earthly paradise now, as I think, / a man is given mastery' (ll. 169–72). The Paradise that Adam and Eve inhabit is distinguished from heavenly Paradise, but while it is of the earth and created when the earth is created, the play also suggests that Paradise is separate from earth, even before the Fall. When God fashions Adam the stage direction reads: 'Then going from the place where he was, cometh to the place where he creates Adam' (after l. 80). God moves from the heavenly firmament, where he created the world, to the earth, where he makes Adam, who later acknowledges, 'Of the earth thou made first me' (l. 153). However, on stage this seems to be a different space than Paradise, as the reader is told in the next stage direction that 'Then the creator brings Adam into Paradise' (after l. 112). Here, one can see indications as to the use of the *locus* of 'place' on the stage and the *platea* of 'earth' on the street. After the Fall, God commands Adam that, 'to earth thither thou must go' (l. 381) and the Angels are commanded to protect Paradise from 'earthly man'. In this sense, Paradise is both an 'earthly' place but also a 'place' outside of the earth and that separation is reinforced by the spaces used for staging the play. After the expulsion, God commands the Angels that 'with sharp swords one every side / and flame of fire here to abide' (ll. 389–90). The third angel responds to his command: 'And in this heritage I will be, / still for to ever see / that no man come in this city' (ll. 409–11). Furthermore, this mapping of Paradise as both of the earth and yet separate and unattainable by man is in keeping with medieval traditions of Paradise, both in the literature and in visual representations.

## Locating Paradise in the medieval world

The textual transmission of Paradise and its location from its origin in Hebrew to the debates of the early church theologians has been illuminated in the work of Jean DeLumeau and more recently, Alessandro Scafi. DeLumeau traces the linguistic origin of 'Paradise' to the Old Persian *apiri-daeza* which signified an orchard surrounded by a wall.[13] While St Augustine was not the first of the early Christian writers to argue that Paradise was a real place, his writings in *The Literal Meaning of Genesis* were the catalyst for the efforts to locate Eden and map it in the Middle Ages.[14] St Augustine writes, 'Paradise ... should be understood as simply a place, that is, a land, where an earthly man would live'.[15] More than two hundred years later, Isidore of Seville would describe 'Earthly Paradise'[16] in his *Etymologiae* as planted with 'every kind of fruit-tree and non-fruit tree … including the tree of life … Access to this location was blocked off after the fall of humankind, for it is fenced in on all sides by a flaming sword, that is, encircled by a wall of fire, so that the flames almost reach the sky'.[17]

Likewise, medieval *mappaemundi* depict Eden as both part of the mappable earth but also separate from the rest of the map. The Hereford *mappamundi*, for instance, shows Eden as an island surrounded by a wall



**Fig. 4 Detail of a walled Paradise on the Hereford *mappamundi*, c. 1290. Hereford Cathedral. By permission of The Dean and Chapter of Hereford and the Hereford Mappa Mundi Trust.**

with a very prominent gate and while not all maps depict Eden as an island, Paradise is always seen as remote and unreachable. (Fig. 4) In accordance with the biblical translation that Eden lies in the East, Paradise appears at the easternmost point of the maps, on the periphery of the world. England and Wales, too are shown on the opposite end of the world; an island on the edge and separated from surrounding land. In the Drapers' play these two spaces (biblical and local) overlap: England and Chester, in particular, are mapped as a parallel of Eden and conversely Eden is mapped onto a stage in Chester.

### Mapping within Chester's walls

While much of what has preceded could be interpreted as modern academic connections made between the play and the classical/medieval cartographic tradition, the question remains: Would a sixteenth-century audience have associated the Drapers' play with a 'mappa mundi'? Here the inquiry must turn to the *Records of Early English Drama* and the documents that attribute the Cycle to Ranulf Higden. The records for Chester contain nine attributions of the play to Ranulf Higden; the earliest attribution is in the Late Banns (c. 1561) which notes that 'sometimes there was Mayor of this City / Sir John Arneway knight who most worthily / Contented himself to set out in play/ the device of one Rondoll Monk of Chester Abbay'.[18] There are references to Higden's association with the Cycle in earlier records but they have all been added by a later hand. The play's supposed authorship is dismissed by Randall Holmes, a seventeenth-century antiquarian, in marginalia to another record noting the discrepancy between Higden's lifetime and the Cycle's origin, but the recurrence of the attribution after the Late Banns, suggests that the play's association with Higden was popular, if inaccurate.[19] Regardless of whether Higden authored the Cycle or not, there seems to have been a strong association of the Cycle with Chester's famous monk.

The first book of Higden's *Polychronicon* verbally traces the world's geography moving along an East-West line beginning in Eden and ending at the British



Fig. 5 Ramsey Abbey Higden map, c. 1350. © The British Library Board, Royal MS 14.C.IX ff.1v-2.

Isles; a line that mirrors the orientation of the maps that accompany his text. It is clear that Higden thought of this first book as a map as he notes that a 'Mappa mundi is described in the first book of work, in the manner of a general division into a specific division'.[20] Higden, like Augustine and Isidore before him, views Paradise as a mappable space on the earth: his chorography,[21] or 'mappa mundi' as he calls it, begins with a description of Paradise which notes that 'Paradise is not, as some suppose, a region elevated above the surface of the globe … Paradise is with probability placed in the extreme bounds of the east, and considered to be a large tract of country, no less than India and Egypt'.[22] The maps that sometimes accompany his text testify to his mapping of Paradise as a place on earth, located at the easternmost edge though unreachable by man.[23] Though the Ramsey Abbey Higden map from the *Polychronicon* manuscript (BL: Royal MS 14.C.IX ff.1v-2) has left the area to be occupied by Paradise blank, the size of the box that was to contain it is quite large, located at the top of the map oriented East. (Fig. 5) While Paradise was clearly meant to be separated from the rest of the map by the bounding box, it was not an island as it is depicted in other *mappaemundi* but seems to be a track of land east of India. The association of Higden with the Cycle, if it was as common as its prevalence in the records seems to suggest, would have informed the way audiences viewed the geography of the world and Eden as it was presented in the Drapers' play.

Furthermore, as mentioned previously, when God commands the Angels to guard Paradise during the play, the third Angel responds, 'And in this heritage I will be, / still for to ever see / that no man come in this city'. (ll. 409–11) Indeed, the depiction of Eden as a walled city, especially after the Fall, can be found, not only in the *Etymologies*, but also on *mappaemundi*, including the Hereford *mappamundi*. (Fig. 4) Chester's prominent walls correspond to the wall of flames that surround Paradise after the Fall: both offered protection while also defining the limits of 'place'. The Drapers' play, drawing on these literary and visual traditions, invites its audience to see Chester as a kind of Paradise; privileged and protected from the 'earth' out there. At the same time Paradise is Chester: the players of Adam and Eve are inhabitants of Chester and the stage and its props are products of local craftsmen. The two are inextricably linked during the play. For the first half of the play, the landscape of Paradise and Chester overlap and intermingle, creating a space wherein the audience inhabits both locations at the same time. However, as Adam and Eve leave Paradise, the audience is reminded that they, as products of the Fall, cannot experience Paradise really: the audience must, as the second Angel says 'deprived bee of paradise, / no more for to come there'. (ll. 407–8).

**So is it a map?**

Chester's Drapers' play is not the only seemingly unconventional map in the Middle Ages, or the first. As noted previously, Ranulf Higden referred to his own chorography as a 'mappa mundi' in the *Polychronicon*, which may have influenced the way an audience would have viewed the play as a map. David Woodward has compiled a number of examples of textual *mappaemundi*, including a manuscript in the British Library titled 'Mappa Mundi sive orbis descriptio'; A French verse titled 'mappe-monde' by Peter of Beauvais; and a gazetteer of religious houses in England, Wales and Scotland (identified by Gervase of Canterbury as a 'mappa mundi' in Harley and Woodward's *History of Cartography*).[24] Woodward goes on to note that 'it is common to find the term used to mean a verbal description in a metaphorical sense, much as we talk today of "mapping a strategy."'[25] Here, in returning to Evelyn Edson's depiction of medieval maps as 'philosophical, religious and historical documents', one could reconsider the genre of the Drapers' play wherein *mappaemundi*, in particular, are understood as philosophical, religious and historical *representations of, or meditations* on the world.[26]

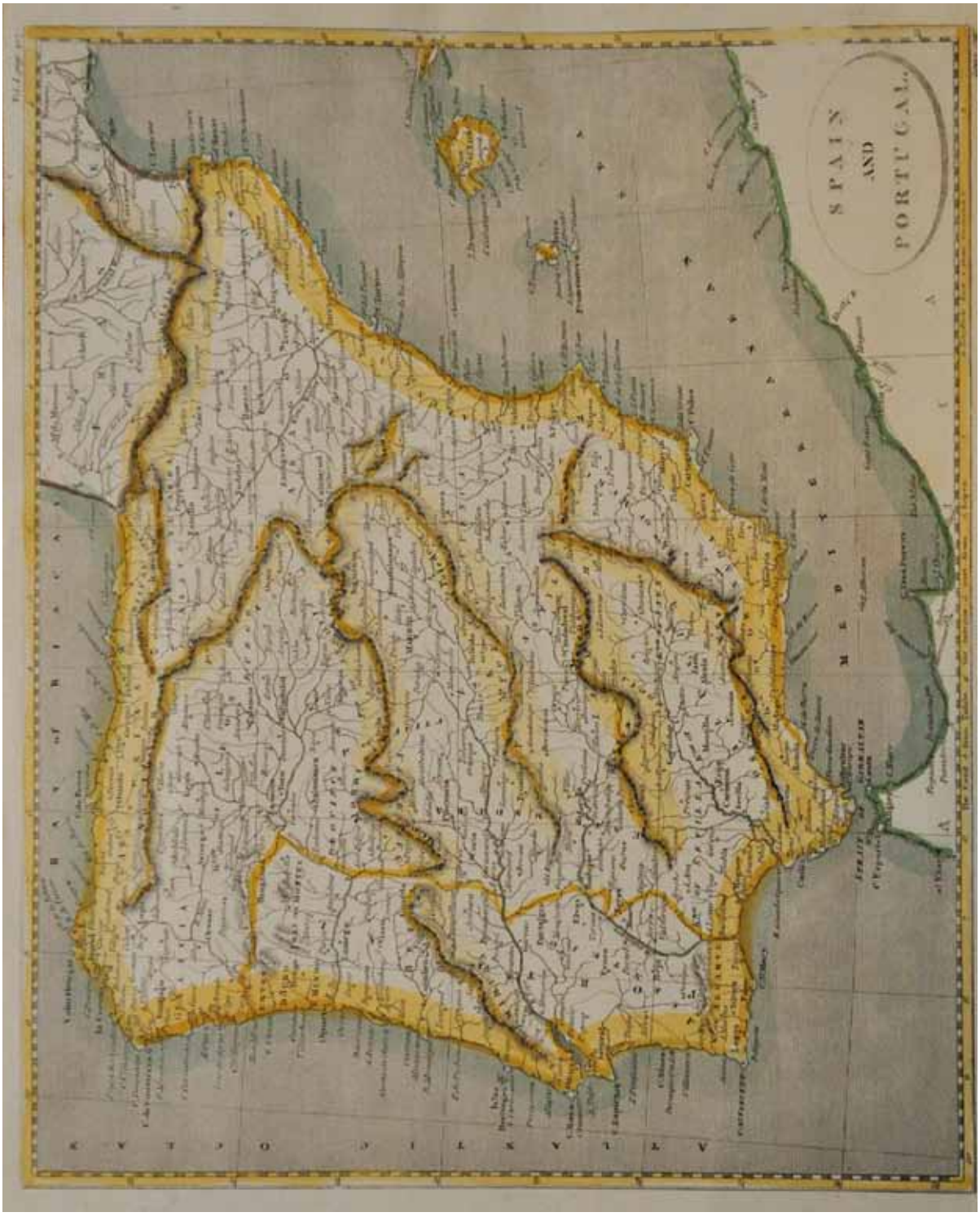
Modern readers viewing the Drapers' play as a *mappamundi* can investigate what Christian Jacob terms the 'semiological crossroads' of maps to reflect on the ways the play's audience would have experienced Paradise on a stage in Chester.[27] The walls of fire that surround Paradise become the city walls; the gardens of Chester reflect those in Paradise; and the rivers which flow out of Paradise can be heard outside the walls as the Dee runs its course. This overlapping can occur because the map performed on stage allows the audience to make these connections. In Chester's Whitsun plays, the diachronic nature of medieval *mappaemundi* coalesced with what Dannallee Dox describes as the collapsing of space and time in medieval theatre 'by putting the biblical past in material terms … simultaneously in the space of the present moment'.[28] The ability of medieval theatre to overlap historical and contemporary time and space, as seen in the Drapers' play, is in many ways the optimum vehicle for deploying a map that could be experienced by a large audience. In mapping Paradise on Chester, its citizens become part of the map, experiencing it as it is created.

Alessandro Scafi, writing on Augustine's work, writes 'the visible world was no mere reflection of a higher and eternal reality, but the work of an omnipotent creator and the *stage* on which God's plan for the salvation of mankind was to be enacted'. [author emphasis][29] It was of this imagining of the world that Shakespeare wrote: 'All the world's a stage / And all the men and women merely players'.[30] Conversely, in Chester it was the stage that created the world.

**Notes**

**1** *Records of Early English Drama: Chester*, ed. Lawrence M. Clopper, Toronto, University of Toronto, 1979, p. 34. The Early Banns are found in British Library, Harley MS 2150. I have translated the late medieval/early modern English of the text.
**2** Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed Their World*, London, British Library, 1997, p. 104.
**3** I distinguish here between 'mappa mundi' as our primary texts refer to the maps and the genre of *mappaemundi*. The former appears in quotes throughout this article, while the latter appears in italics.
**4** *Records of Early English Drama: Chester*, p. 6-7. The earliest record of the play is from the Copper Records. C: Loose Papers April 20, 1421-22.
**5** Jerome Taylor and Alan H. Nelson, *Medieval English Drama; Essays Critical and Contextual*, Chicago, University of Chicago Press, 1972, p. 130. The first day of the cycle contains five plays: *The Fall of Lucifer* (Tanners), *Adam and Eve; Cain and Abel* (Drapers), *Noah's Flood* (Waterleaders and Drawers of Dee), *Abraham, Lot, and Melchysedeck*; *Abraham and Isaac* (Barbers), and *Moses and the Law* (Cappers). The plays of the second day (thirteen total) are: *The Annunciation and the Nativity* (Wrights), *The Shepherds* (Painters), *The Three Kings* (Vintners), *The Offerings of the Three Kings* (Mercers), *Slaughter of the Innocents* (Goldsmiths), *The Purification; Christ and the Doctors* (Blacksmiths), *The Temptation; The Woman Taken into Adultery* (Butchers), *The Blind Chelidonian; The Raising of Lazarus* (Glovers), *Simon the Leper, Christ and the Money Lenders, Judas' Plot* (Corvisors), *The Last Supper* (Bakers), *The Trail and Flagellation* (The Fletchers, Boyers, Coopers and Stringers) and *The Passion* (Ironmongers) – this forms one play in Huntingdon Library HM2, and two in the other MSS, *The Harrowing of Hell* (Cooks). Finally, on the third day there are seven plays: *The Resurrection* (Skinners), *Christ on the Road to Emmaus, Doubting Thomas* (Saddlers), *The Ascension* (Tailors), *Pentecost* (Fishmongers), *The Prophets of the Antichrist* (Clothworkers), *The Antichrist* (Dyers) and the *Judgement* (Websters).
**6** William Tydeman, *English Medieval Theatre: 1400-1500*, London, Routledge & Paul, 1986, p. 112.
**7** *Records of Early English Drama: Chester*, p. lvi.
**8** Taylor and Nelson, p. 117.
**9** See note 1.
**10** By 1561 the Banns had been rewritten as follows, 'Of the Drapers you the welthie companye / The creation of the worlde. Adam and Eue. / Acordinge to your welthe sett oute wealthelye / And how Cayne his brother Abell his life did bereaue' as noted in *Records of Early English Drama: Chester*, p. 242. The image of the 'mappa mundi' has been removed and so we could then argue that the relation between the Cycle and mapping was a feature only of the first Banns' author. However, the Late Banns is also the first document to ascribe attribution of the play to Ranulf Higden, whose interest in geography is addressed further in this piece. The Late Banns appear in 4 MSS in the British Library: Harley MS 1944, Bodley 175, Huntingdon Library HM2 and Harley MS 2013.
**11** *The Chester Mystery Cycle*, Ed. R. M. Lumiansky and David Mills, London, Oxford UP for the Early English Text Society, 1974. All line numbers will be from this edition and will appear in-text. I have also translated the Middle English of the text into modern English.
**12** Additionally, 'earth' is used four times as often in Chester's Drapers' play as it is in the same sequence in the either the Towneley or N-Town Cycles.
**13** Jean DeLumeau, *History of Paradise: the Garden of Eden in Myth and Tradition*, New York, Continuum, 1995, p. 4.
**14** DeLumeau notes that Augustine's description comes from St Basil's (d. 379) nine homilies on the six days of creation which he preached at Caesare. Additionally, DeLumeau points to the writings of St Hippolytus (d. 235) who says, 'Some persons claim that Paradise is in heaven and is not a created thing. But when one sees with one's own eyes the rivers that flow from it and that can still be seen today, one must conclude that Paradise is not heavenly but part of Creation. It is a place in the east and a favored region'. Delumeau, pp. 4, 16.
**15** Augustine, *The Literal Meaning of Genesis*, ed. John Taylor, Vol. 2, New York, Newman, 1982, pp. 32-33.
**16** DeLumeau, p. 44. Isidore writes of two Paradises, one Earthly and one Heavenly.
**17** Isidore of Seville, *The Etymologies of Isidore of Seville,* ed. Stephen A. Barney et al., Cambridge, Cambridge UP, 2006, p. 285.
**18** *Records of Early English Drama: Chester*, p. 240.
**19** A second attribution in the records is to a monk named Henry Francis. No one can definitively say who the Cycle's author was, if indeed there was only one. Lawrence Clopper attempted to make sense of the records by suggesting that Henry Francis authored the Cycle based on an expanded English text of Higden's *Polychronicon*. He explains that the Late Banns do not actually say Higden authored the text but that play was the 'device' of one 'Rondoll Higden'. Lawrence Clopper, 'Arneway, Higden and the Origin of the Chester Plays', *REED Newsletter*, 1983, pp. 4-11.
**20** Ranulfus Higden and John Trevisa, *Polychronicon: Together with the English Translations of John Trevisa and of an Unknown Writer of the 15th Century*, ed. Churchill Babington and Johannes Malverne, Vol. 1, London, Longman, 1886, p. 27.
**21** A chorography is a written description of the land. These were commonly found in the beginning of chronicles but can sometimes be seen as a separate genre, especially at the start of the sixteenth century.
**22** Higden, p. 75.
**23** There are over 100 Latin MSS of the *Polychronicon*, but less than 10 contain a map. However the only MS thought to be in Higden's own hand, at the Huntington Library, does contain one.
**24** J. B. Harley and David Woodward, *The History of Cartography*, Vol I, Chicago, University of Chicago Press, 1987, pp. 51-2.
**25** See note 24.
**26** See note 2.
**27** Christian Jacob, 'Selected Papers from the 16th International Conference on the History of Cartography: Theoretical Aspects of the History of Cartography: Toward a Cultural History of Cartography', *Imago Mundi*, 48, 1996, pp. 191–8. Jacob argues that maps contain markers or 'semiological crossroads' that create a link between a point on a map and something external to it.
**28** Donnalee Dox, 'Theatrical Space, Mutable Space, and the Space of Imagination: Three Readings of the Croxton *Play of the Sacrament', Medieval Practices of Space*, ed. Barbara Hanawalt and Michal Kobialka, Minneapolis, University of Minnesota Press, 2000, pp. 176–7.
**29** Alessandro Scafi, *Mapping Paradise: a History of Heaven on Earth*, London, British Library, 2006, p. 45.
**30** William Shakespeare, 'As You Like It', *The Norton Shakespeare*, ed. Stephen Greenblatt, Walter Cohen, Jean E. Howard, Katharine Eisaman Maus and Andrew Gurr, New York, W.W. Norton, 1997, p. 1622.

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SPAIN
AND
PORTUGAL

# NEWS FROM THE FRONT

## *How the British public followed the Peninsular War*

**Carolina Puertas Mosquera** and **Richard Smith**

*Maps have always played a vital role in military activities and no less so during the Peninsular War (1808–1814). The production and use of maps by the contending French, British and Spanish armies in this conflict are reasonably well documented but little, if anything, has been said about their domestic use. The army in the field, Horse Guards and the War Office in London were not the only ones interested in the progress of the War. Families with sons at the front, anxious businessmen losing trade through Napoleon's Continental Blockade and those grumbling at the introduction of income tax to pay for the conflict were equally keen to have news of events in distant Spain and Portugal. Coinciding with the bicentenary of the end of the Peninsular War this article explores domestic use of maps and illustrations by the British, within the context of printed matter, to keep themselves informed, and how these publications also shaped new images of, and attitudes toward the Iberian nations.*

### Britain in 1808

When war broke out in the Iberian Peninsula, as a result of the French invasion of Portugal, in November 1807, and the Spanish revolt, six months later in May 1808, against Napoleon's occupation of their country, Britain was the foremost power in Europe in terms of industrial strength and parliamentary democracy. Despite the social problems caused by agricultural reform and industrialisation, the population of 13 million was growing and becoming wealthier.[1] With increasing wealth came increasing literacy, which by 1800, had reached levels of over 50 percent of the adult population.[2] Of special interest to this article is map literacy. According to Catherine Delano-Smith 'maps were essential adjuncts in the dissemination of news'[3] as early as the late sixteenth century, while Mary Pedley finds that 'by the eighteenth century maps and globes had become a regular feature in the life of the literate'.[4]

In 1768 Ralph Griffiths, the editor of the *Monthly Review* or *Literary Journal*, stated that travel writings were the favourite topic among his magazine's readership.[5] Certainly travel literature was an expanding genre, but the extent to which publications covered Spain and Portugal was much less than, for example, France, Switzerland and Italy. The Iberian nations fell outside the circuit of the Grand Tour and their image of decadence and enduring tarnish of the Black Legend were thought less inspiring than the classical glories of Italy or the social and scientific progress of France.[6] Ana Guerrero has identified only 27 travel books written by English visitors to Spain and Portugal during the whole of the eighteenth century,[7] while Ignacio Paz finds that opinions and attitudes towards Spain and Portugal were mixed, but in general, 'between the Armada (1588) and the Peninsular War, British historiography on Spain had been predominantly negative'.[8]

Cartographically Iberia had also received little attention from the London map trade. Apart from small maps in general atlases and plans of British defences in Gibraltar and Menorca, only a few large-scale maps had been published as separate sheets in the years before the War. (Fig. 1)

The limited knowledge of the geography, landscape and culture of the Iberian nations among the British public was sometimes commented on. Dr Johnson thought that 'no country is less known in the rest of Europe than this',[9] while Alexander Jardine (? – 1799), for many years an officer in Gibraltar and later a diplomat in Spain, confirms in his book that the lack of knowledge about Spain was due 'more to a lack of readers than writers'.[10]

The embarkation of British troops destined for the Peninsula in July 1808, however, radically changed this situation. Spain and Portugal 'quickly became a fascination to Britons … and … everyone wanted to read the latest updates in newspapers, books and journals'.[11] Those engaged in publishing did not let their public down, and with the introduction of aquatint and lithographic printing of illustrations and maps, the media were able to offer speedier and better quality publications to meet popular demand.[12]

**Fig. 1 A typical early nineteenth-century pocket atlas map of 'Spain and Portugal' published by Cadell and Davies. This one measures only 25 x 20 cm but its skilful author, Aaron Arrowsmith Snr (1750–1823) not only reflects a good coastal outline and reasonably accurate interior river systems and distances but also packs in a good number of place names without cluttering the whole. Relief, however, is not well represented. Courtesy, Richard Smith collection.**

### Newspapers and magazines

By 1800 there were some 50 London and 100 provincial daily newspapers and magazines with circulations of around 5,000 for the daily *Times* and 10,000 for the weekly *Gentleman's Magazine*.[13] They were well prepared to follow and report on the War and indeed the *Times* probably employed the first ever war correspondent in the person of Henry Crabb Robinson (1775–1867), who was sent, initially, to Italy in 1807 and then Spain to cover the campaign of General Moore.

News of events reached Britain fairly quickly. Take for example the Battle of Corunna (16 January 1808) between British and French troops led by General Sir John Moore and General Soult. News of the battle and Moore's death in the conflict were reported by the biweekly *Edinburgh Advertiser* only eleven days after the event. The information was based on a Government communication and an interview with the recently landed General Lord Paget.[14] In this period there were no heavy type front page headlines and news was added as it came in. (Fig. 2) In this case, the article is sandwiched between a description of the problems caused by a heavy snowfall the previous day and a list of benevolent donations to the city jail.



EDINBURGH ADVERTISER for 1809.

EDINBURGH

ADVERTISER OFFICE.

IMPORTANT INTELLIGENCE FROM SPAIN.

BATTLE AT CORUNNA.

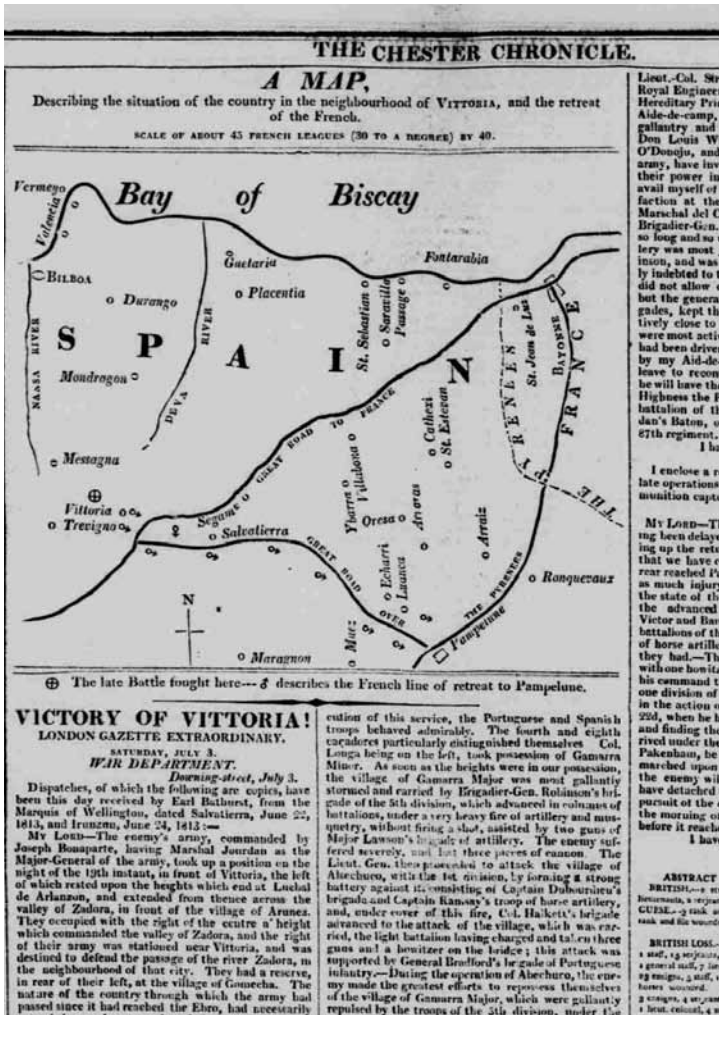
*DEATH OF SIR JOHN MOORE,*

AND

*GENERAL BAIRD WOUNDED.*

Fig. 2 The headlines and opening paragraph of a report on the Battle of Corunna and death of General Sir John Moore reported in the *Edinburgh Advertiser* on the 27 January 1809. Courtesy, Puertas Mosquera Collection.

In the early stages of the War many newspapers gave lengthy descriptions of Iberia and its implications for the conflict, one predicting quite rightly that the geography and size of Spain 'prevents the possibility of it being subdued by a single army however large, or by any single victory however brilliant and decisive'. Furthermore, on discussing Spanish cartography, the anonymous author concludes that 'all the maps and accounts of that country are calculated rather to mislead than assist a General in his operations'.[15] On a few occasions newspapers added maps to help explain events though these were usually not very accurate as can be seen in Fig. 3 of the 1813 Battle of Vittoria.



THE CHESTER CHRONICLE.

*A MAP,*

Describing the situation of the country in the neighbourhood of VITTORIA, and the retreat of the French.

SCALE OF ABOUT 45 FRENCH LEAGUES (30 TO A DEGREE) BY 40.

Bay of Biscay

SPAIN

FRANCE

The late Battle fought here--- describes the French line of retreat to Pampelune.

VICTORY OF VITTORIA!

LONDON GAZETTE EXTRAORDINARY.

SATURDAY, JULY 3.

*WAR DEPARTMENT.*

*Downing-street, July 3.*

Dispatches, of which the following are copies, have been this day received by Earl Bathurst, from the Marquis of Wellington, dated Salvatierra, June 22, 1813, and Irunzun, June 24, 1813:—

Fig. 3 The text of Wellington's report on his victory at the Battle of Vittoria (21 June 1813) was reported by the *Chester Chronicle* on 9 July, and is accompanied by a map of the location and subsequent retreat of the French. It is easy to criticise the quality of the map, but no doubt it was helpful to readers to follow the actions described besides being an indicator of the 'map literacy' of the period. Courtesy, British Newspaper Archives.

**The London map trade during the War**

Topographical maps were soon in great demand, especially from outbound regimental officers who had to acquire their own maps from the commercial market. But there is good reason to believe that domestic users, too, purchased maps. Mary Pedley, when writing about the eighteenth and early nineteenth centuries, claims that 'in spite of war and political upheaval, or *rather because of it*, the market for maps was buoyant'.[16] [author's emphasis]

A very good example of domestic map use specifically relating to the Peninsular War is Francis Larpent, Wellington's Judge Advocate. Larpent gives numerous references to his position and route on a wide range of maps in his letters home, and it is obvious that his family is equally well armed cartographically. For example, on 11 October 1812 he writes from Castello Branco in Portugal, 'I have my route and here it is … Few of these places are in Faden's map'. Towards the end of the campaign, when entering France, he laments not having maps by Cassini or Stockdale's copy of them but 'I conclude that Stockdale will go on publishing more of Casini [*sic*] to follow us up'.[17]

The War, therefore, presented a good commercial opportunity for the London map trade, and some firms took advantage. In total about twenty maps were produced, most featuring general topography, others were simple road maps and in one case, John Luffman produced a (not very accurate/good) map showing the territorial responsibilities of the British and six regional Spanish Armies. Battle plans too appear to have been popular. William Faden and John Stockdale were the two most active publishers of new cartographic material dealing with Iberia, though their work methods represent the two polar ends of London map trade practice. (Table 1)

| Year | Short Title | Publisher |
|---|---|---|
| 1808 | 'A map of the roads of Spain'<br>'A new map of Spain based on López'<br>'A map of Spain and Portugal by E. Mentelle & P. G. Chanlaire'<br>'The Port of Lisbon'<br>'A map showing the city of Lisbon with fortifications' | John Stockdale<br>John Stockdale<br>John Stockdale<br>John Luffman<br>John Luffman |
| 1809 | 'A new map of Spain and Portugal'<br>'A map of Portugal with the Algarve'<br>'A map of the Pyrenees and adjacent provinces' | John Luffman<br>John Wilkinson<br>Aaron Arrowsmith |
| 1810 | 'A new map of Spain and Portugal'<br>'Cadiz' | William Faden<br>John Luffman |
| 1811 | 'A new map of Spain and Portugal divided into military areas'<br>'Map of the country around Cadiz'<br>'Spain and Portugal'<br>'A plan of the harbour and environs of Cadiz'<br>'Map of the roads of Portugal' | John Luffman<br>William Faden<br>Russell Wilkin<br>Aaron Arrowsmith<br>Aaron Arrowsmith |
| 1812 | 'Spain and Portugal'<br>'A new military map of Spain and Portugal'<br>'Spain and Portugal' | Robert Wilkinson<br>John Stockdale<br>William Faden |
| 1814 | 'The coast of Spain and Portugal [San Sebastian to Bordeaux]' | John Luffman |

**Table 1: Broadsheet maps of the Iberian Peninsula published by the London map trade between 1808 and 1814.**

Note: Maps identified by the author are in all probability not complete. Some broadsheet maps may have been included with other publications.




**Fig. 4 Detail of the southeast sheet of the Nantiat/Faden map of Spain and Portugal including the title and 'Advertisement'. Courtesy, Richard Smith collection.**

William Faden (1749–1836) was one of the London map trade's leading members and had official recognition through his appointment, in 1783, as 'Geographer in Ordinary to his Majesty'. Faden's most important map during the Peninsular War was a relatively large scale (1: 855 000) one: 'A new map of Spain and Portugal exhibiting the Chains of Mountains with their Passes, the Principal and Cross Roads with other details requisite for the Intelligence of Military Operations'. It was published on 1 January 1810. Faden was the engraver and publisher but the little-known Jaspar Nantiat was responsible for drawing the map. Of all the topographical maps produced during the War it represented the most innovative attempt to improve on previous spatial representations of the Iberian Peninsula. The map includes a detailed 'Advertisement' which clearly indicates the numerous sources used: as well as the Spanish provincial maps of Tomás López and Vicente Tofiño's sea charts, Nantiat mentions Roussell's map of the Pyrenees and Laborde, Cassini, and the British writer Rev. Joseph Townsend. (Fig. 4)

Nantiat's representation of the relief of the Iberian Peninsula is probably the first to use simple hachuring with shading and to give estimates of altitude, which are included in 'The Advertisement'. The three sources for these estimates are Alexander Humboldt's calculations made during his visit to Spain in 1799, the work of Clemente de Roxas (a Spanish naturalist) and the French *Journal des Mines*. For example, the height of Mulhacen in the Sierra Nevada, the highest point in the Peninsula was calculated by Roxas as 11,673 feet or 3,558 metres compared to 3,482 metres on modern maps. Whilst not perfect, the orography is reasonably correct and a great improvement on the randomly scattered 'molehills' typical of many eighteenth-century maps, though, unfortunately, the heavy shading sometimes obliterates place names. (Fig. 5) The map was also issued as a single 84 x 60 cm sheet at the reduced scale of 1: 1 778 000 in 1810 and again in 1812, confirming its popularity.

Faden produced no other topographical maps of Iberia during the War though he did publish 'The Spanish Coasting Pilot' in 1812 based on Vicente Tofiño's two-volume navigational instructions *Derrotero de las Costas de España* (1789) with a selection of 28 charts from his *Atlas Maritimo de España*. He also printed several battle plans as single sheets most of which were based on lithographs supplied by the Quartermaster General's Department at Horse Guards.

John Stockdale (1750–1814) was no geographer but began as a Cumberland blacksmith who came into the publishing trade through his wife's relations in London. He started his own business in 1781 and published a wide range of literature, including radical political pamphlets[18] and maps, but the latter were always copies







**Figs. 5 & 6 A comparison of the same area of the Guadarrama mountains between Madrid and Segovia as shown by Faden /Nantiat and John Stockdale. The relief of the sierra in the Stockdale map relies on an unrealistic thin line of profile 'molehills' but is very well represented in Faden's map with hachuring. Unfortunately, the addition of shading to the latter almost obliterates many place names. Courtesy, Richard Smith collection.**

of someone else's work. With a sharp commercial sense, he profited from the War: before the end of 1808 he had published three maps relating to Spain and Portugal which were widely advertised in the press, and he continued to publish others during the remaining years of the conflict.

His most important map of Iberia was a copy from Edme Mentelle (1730–1816),[19] available either as a single, folded sheet or dissected and mounted on cloth, or as nine separate sections inside a hardback 42 x 28 cm cover. Mentelle, like so many other cartographers of this period, based his map of Iberia mainly on the work of the Spanish cartographer Tomás López, and thus repeated his errors. Relief is shown by molehill symbols and colour has been added to indicate provincial boundaries. (Fig. 6) Although the printing is crisp and clear it is certainly an inferior map to Nantiat's in distance accuracy, detail and especially relief.

### Travel books and eyewitness reports

Books were another major source of information and were often accompanied by maps and illustrations. General descriptions of Spain and Portugal were very much in demand at the beginning of the War and, once again, publisher John Stockdale was quick off the mark. In 1808 he published a travel guide, *An Atlas to the Modern State of Spain* which contained descriptions of the country, a road map and views based on *L'Espagne moderne*, written by Baron Jean François Bourgoing which had been published in Paris in 1807. This was followed in 1808 by *A view of Spain comprising a descriptive itinerary of each province and a general statistical account of the country*, an English translation of Alexandre Laborde's French work.[20]

The number of books written by participating British officers and soldiers about their experiences during the Peninsular War is extensive. Many were able to offer illustrations of the countryside as well as scenes of actions, which must have assisted greatly in creating a more realistic vision, not only of the military events, but also the landscape and culture of Spain and Portugal. Although most appeared after the War, and some during, others were published soon after particular campaigns. At least three eyewitness accounts were published only months after Moore's campaign. *Letters from Portugal & Spain* by 'An officer' (identified as Sir Robert Ker Porter) included a plan of the Battle of Corunna and described the horrors of Moore's retreat through the snow-covered Galician mountains as 'a trackless eternity of winter ... where ... every yard we passed over was marked with some heart rendering proof of our miseries'.[21] A similar scene of soldiers trudging through knee-deep snow, dying horses and one of the many women camp followers

with children in tow is vividly illustrated in 'Bridge near Constantine' which was included in the book by Adam Neale, an army surgeon and published in 1809.[22] (Fig. 7) The drawing of 'Alaejos', near Salamanca by William Bradford, an Army chaplain, is a very realistic depiction of the stark landscape of rural Castile and was included among 55 illustrations, which were the first aquatint illustrations relating to Spain to be published in England.[23] (Fig. 8)



**Fig. 7 The virulence of the northern Spanish winter was probably as surprising to the British public as it was to Moore's army. This etching of a drawing by surgeon Adam Neale shows the atrocious conditions and suffering experienced during the retreat. Courtesy, Puertas Mosquera collection.**



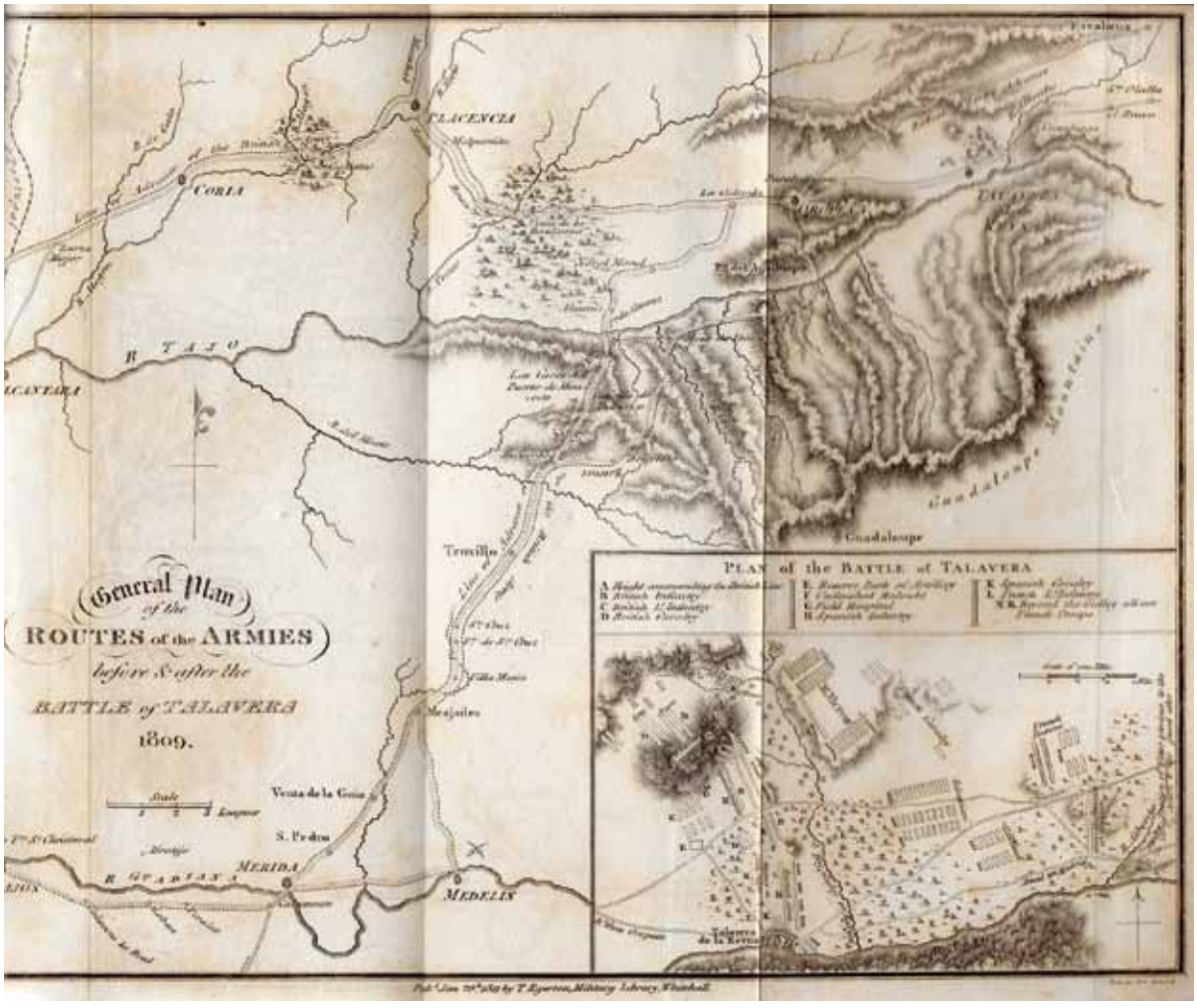
**Fig. 8 This aquatint by Rev. W. Bradford of 'Alaejos' made during the march of General Sir John Moore is very realistic impression of rural Castile in the early nineteenth century. Courtesy, Puertas Mosquera collection.**

Another book which combined travel and military information was written by artillery officer William Granville Eliot. His popular guide *A Treatise of the Defence of Portugal* was published in 1810. Eliot was among the first to embark on duty in 1808 and he travelled widely in Portugal inspecting fortifications. Besides his purely military observations, the book contains much useful advice on travel in the country including, for example, a fascinating three-page comparison of Portuguese and British blacksmith techniques for shoeing horses. The first edition included 'A new military map of Portugal' based on the *Carta Militar* of the Portuguese engineers and other sources, as well as his own observations, but Eliot admits that 'the scale has not been so much attended to as could be wished' and, indeed, his distance errors are considerable. The book obviously sold well as it was followed by a second and third edition which included maps of the Lines of Torres Vedras and comments and plans of the battles won by Wellington at Vimeiro, Talavera and Busaço. (Fig. 9) The maps were engraved by Samuel Neele and the book was published by T. Egerton of Whitehall, London, a specialist in military publications. It was obviously popular with out-bound officers, and possibly, the general public as well.

### Post-War publications and public attitudes

Histories and eyewitness accounts continued to roll off the presses, not only in the immediate years following the War but even today. The image of the Iberian people reflected in these accounts did, of course, vary according to writer. Thus, when Charles Esdaile investigated British officers' reactions to Madrid after entering the capital with Wellington in the summer of 1811, he found both positive and negative attitudes in their accounts. Lt. John Donaldson, for example, found that 'no place could have been better adapted to recover from our former fatigues' and he goes on enthusiastically to describe 'the pure and healthy air ... good and cheap wine, fruit and provisions ... the delightful walks of the Prado ... the women, the music and nightly serenades'. On the other hand, Ensign George Hennell, perhaps less a *bon vivant* and more observant than his companion-in-arms was greatly disturbed by 'the poor' of which 'many are the most wretched objects', while for Lt. William Grattan 'the Spaniards are naturally a lofty and distant people'.[24]

Public interest certainly continued and this was undoubtedly due, in part, to the fact that the Peninsular War years and their aftermath coincided with the apex of public fascination for the Romantic Movement. What better source for new inspiration than the heroic death of Moore, *guerrilleros* and *bandilleros*, attractive flamenco dancers, austere landscapes, ruined castles atop steep rugged cliffs and exotic Moorish architecture. Although not quite part of the Grand Tour, there was now a constant stream of new travel writers, tourists and especially artists




*Above*
**Fig. 9 William Eliot's cartographic description of the Battle of Talavera from his book *A Treatise of the Defence of Portugal*. The larger part of the document is entitled 'General Plan of the Routes of the Armies before and after the Battle of Talavera' and a smaller section is devoted to a plan of the battle itself with a legend showing troop dispositions before battle. Courtesy, Richard Smith collection.**



*Right*
**Fig. 10 This picture of 'Tuy on the river Minho from the ramparts of Valença' [Portugal] was composed by the English artist George Vivian. His lithographs were published by P. & C. Colnaghi, London as *Spanish Scenery* (32 illustrations, 1838) and *Scenery of Portugal and Spain* (35 plates, 1839). His romantic style, combined with his 'strict faithful adherence in drawing the face of the country' was popular with the British public. Courtesy, Puertas Mosquera collection.**

making their way to the Iberian Peninsula. Among the more important were Washington Irving (1783–1859) author of *Tales of the Alhambra* and the artist George Vivian (1798–1873) (Fig. 10)

Peacetime cartography also benefited. In 1840 James Wyld published a magnificent atlas using maps and sketches made by the Quartermaster General's Department in Spain and Portugal during and after the War which were sent to Horse Guards, London.[25] It contains 48 battle and siege plans but also includes a large-scale topographical map of central Portugal. (Fig. 11) This map was a considerable improvement in terms of content and distance accuracy (with errors averaging about 5 percent) compared to earlier publications and provided a much needed new spatial representation.

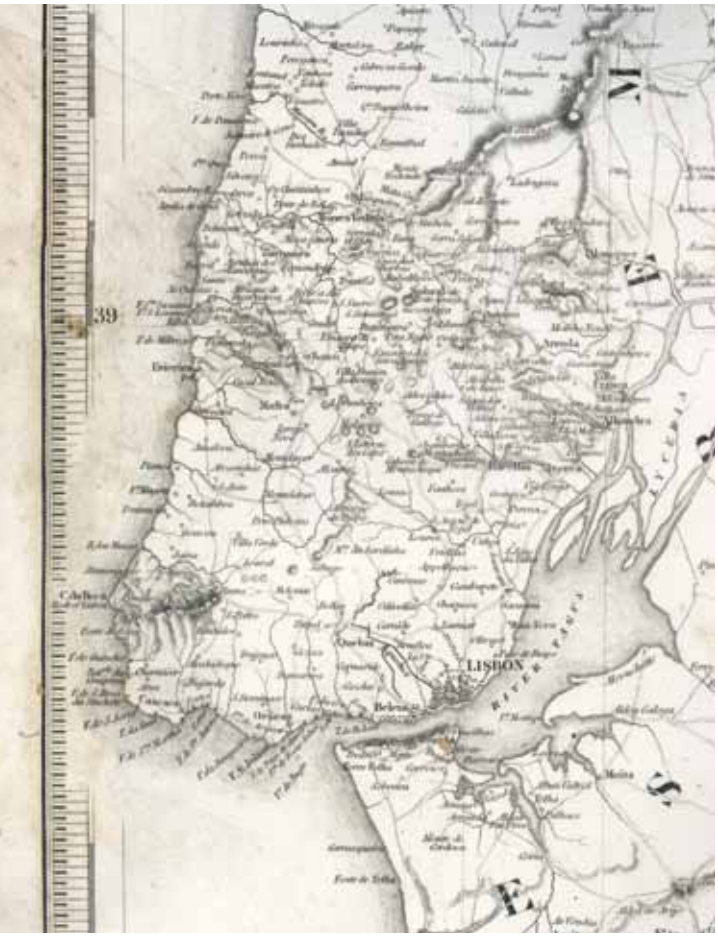



**Fig. 11 A detail of the Lisbon Peninsula including Torres Vedras from the James Wyld atlas 'Maps & Plans showing the Principal Movements, Battles and Sieges in which the British Army was engaged during the War from 1808 to 1814 in the Spanish Peninsula and the South of France' published in 1840. Courtesy, Puertas Mosquera collection.**

## Conclusions

Ample material in various forms was published and made available to a general public keen to follow the course of the Peninsular War. Perhaps unwittingly, this material, including the maps, informed not only on military progress and its consequences, but also contributed to a deeper knowledge of the life, landscape and geography of the Iberian Peninsula and created, at least, more realistic ideas, if not always more positive attitudes, towards the Spanish and Portuguese people.

**Notes**

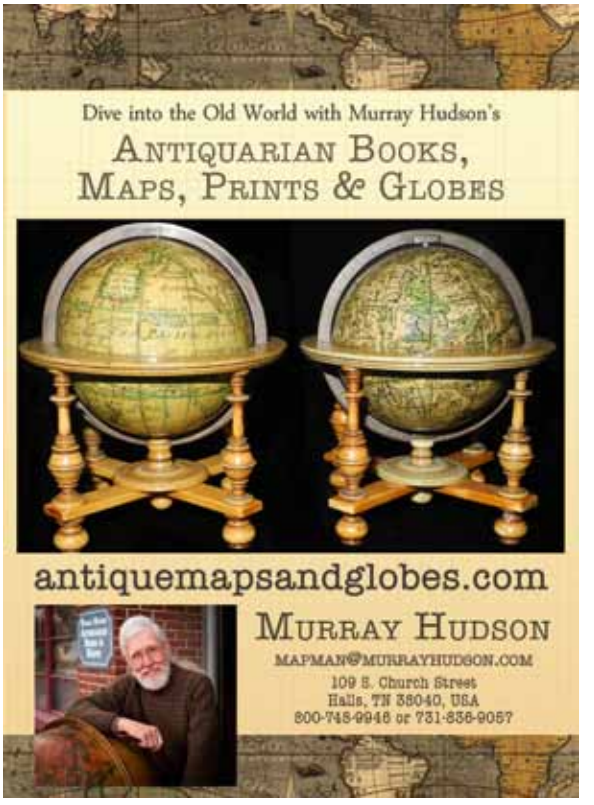
**1** David Thomson, *England in the Nineteenth Century*, Pelican, London, 1977, p. 11.
**2** Robert Allen, *Global Economic History. A very short introduction*, OUP, Oxford, 2011, Table 4.
**3** Catherine Delano-Smith, *English Maps. A History*, British Library, London, 1999, pp. 243–45.
**4** Mary Sponberg Pedley, *The Commerce of Cartography*, University of Chicago Press, Chicago, 2005, p. 6.
**5** Ana Clara Guerrero, *Viajeros británicos en la España del siglo XVIII* [British travellers in 18th century Spain] Aguilar, Barcelona, 1990.
**6** The Black Legend is a term used to describe sixteenth-century negative attitudes towards Spain by her enemies based on accusations of her widespread brutality and cruelty in the conquest of America and by the Church Inquisition.
**7** Guerrero, see note 5.
**8** Ignacio Paz, *British Popular Opinion of the Peninsular War*, p. 3, www.Napoleon-series.org/research/society/c_BritishPopularOpinion.html
**9** Contained in a letter from Dr Johnson to Joseph Baretti, an Italian travel writer. Quoted from Ian Robertson, *Los curiosos impertinentes. Viajeros ingleses por España* [*The curious and impertinent. English travelers in Spain*], Ediciones Serbal, Madrid, 1988, p. 15.
**10** Robertson, p. 118.
**11** Paz, p. 3.
**12** John Rowland Abbey, *Life in England in Aquatint and Lithography 1770–1860*, Curwen Press, London, 1953.
**13** Hugh Thomas, *An Unfinished History of the World*, Pan Books, London, 1989, pp. 396–7.
**14** The Government notice in all probability refers to an extraordinary edition of the Crown *London Gazette* published on 24 January 1809 which printed the text of a letter dated '18th January, On board HMS *Ville de Paris*' from General Baird to Lord Castlereagh (Minister for War) explaining Moore's death.
**15** *Kentish Gazette*, 12 July 1808.
**16** Pedley, p. 6.
**17** Francis Seymour Larpent, *The private journal of Judge-Advocate Larpent*, The Spellmount Library of Military History, Staplehurst, 2000, pp 13-14 [The judge-advocate was a non combatant member of Wellington's staff who advised on court-martial. Larpent was a very active thirty-six year old when he arrived in the Peninsula and apparently well thought of by his superior. Once he was captured by the French causing Wellington to pay a hefty ransom.]
**18** See Eric Stockdale, *'Tis treason, my good man!: Four Revolutionary Presidents and a Piccadilly bookshop*, Oak Knoll Press, New Castle and The British Library, London, 2005,
**19** Mentelle was a leading French geographer, but unlike most of his academic compatriots, he had been a revolutionary and thus not only survived, but thrived on, the tumultuous last decade of eighteenth-century Paris. He produced many maps including a national atlas and books on geography some in collaboration with the Danish geographer Conrad Malte-Brun. Most of his work was published by Pierre-Grégoire Chanlaire. For some time he held an appointment as professor of geography at the Military College with one Napoleon Bonaparte among his pupils.
**20** Stockdale's road map and one by Laborde are reproduced in

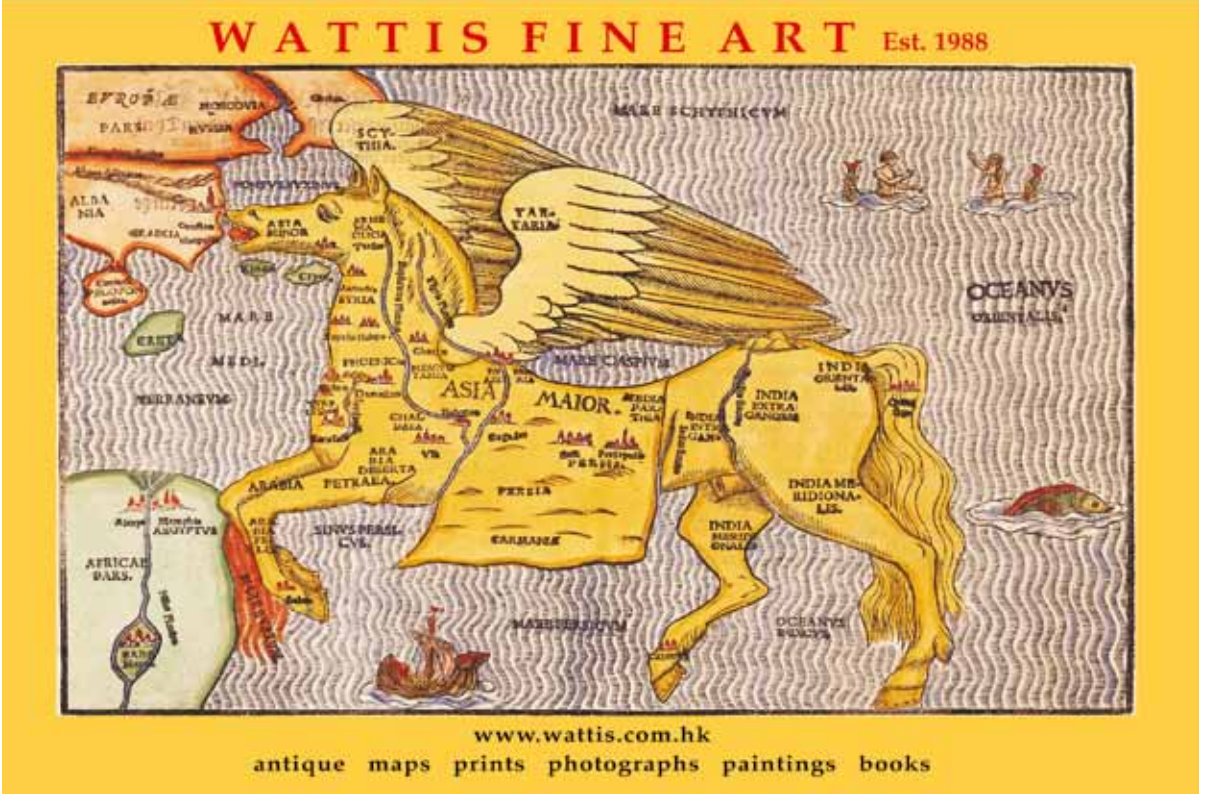
Richard Smith, 'Peninsula Cartography. The bicentenary of the battle of La Coruña', *IMCoS Journal*, Autumn 2009, p. 11.
**21** Sir Robert Ker Porter, *Letters from Portugal & Spain written during the march of the British Army*, Longman, Hurst, Rees and Orme, London, 1809, pp. 262–64.
**22** Adam Neale, *Letters from Portugal and Spain comprising an account of the Operations of the Armies*, Richard Phillips, London, 1809.
**23** Rev William Bradford, *Sketches of the Country, Character and Costume of Portugal and Spain*, John Booth, London, 1809.
**24** Quoted in Charles Esdaile, *Peninsular Witnesses. The experience of war in Spain and Portugal 1808 –1813*, Pen & Sword, Barnsley, S. Yorks., 2008, pp. 229–31.
**25** Richard Smith, 'Peninsular War Cartography. A new look at the military mapping of General Sir George Murray and the Quartermaster General's Department', *Imago Mundi*, Vol. 65 Part II, London, 2013, pp. 234–52.

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**Richard Smith** *was born in Lancashire but has lived in Spain for the last thirty years. Cartography has been a lifetime interest and since retirement he has written various articles on the subject.*



# MAPPING MATTERS

*News from the world of maps*

## Sarah Tyacke meets Norman Thrower

On a research visit to the Huntington Library, California, past IMCoS president Sarah Tyacke, met Norman Thrower Professor Emeritus (UCLA), now aged 96, at his home in Pacific Palisades. He will be remembered by many map aficionados as the author of *Maps & Civilisation, Cartography in Culture and Society*, now in its third edition (2007). He is well and full of reminisces about his time in the Indian Survey during World War II and his later career in the geography department of UCLA. His watercolours, painted in Simla, in the Himalayas are behind them in the photo shown.



## 'Mapping Conflicts, Conflicts in Maps' ISHMap symposium

**A report from Sarah Tyacke, Hon Sec ISHMap**

By generous permission of the Bibliothèque nationale de France the second symposium of the International Society for the History of the Map (ISHMap) took place at the Library on Friday 13 June. On the next day participants were able to visit the Service Historique de la Défense at Vincennes (SHD). The symposium followed a very successful one-day conference on the First World War organised by the French Committee for Cartography (CFC) and participants were able to attend both. This factor contributed to the ISHMap symposium's success.

Gilles Palsky was the ISHMap chair of the organisation and paper selection committee for ISHMap, in close collaboration with Catherine Hoffman of the Department of Maps and Plans at the Library. The papers ranged over maps of war and peace and of disputed territories and beliefs, from the sixteenth to the nineteenth century. Geographically speaking, the papers covered France, the Hapsburg Empire, England and Quebec. Additionally, there were papers on Imperial conflicts in Herman Moll's maps, the conflict between the Ottoman and the Venetians in Cyprus, and even the religious conflicts in Europe as evidenced by historical atlases. Much new work was presented not only by established scholars but also by younger doctoral students.

In reviewing the symposium, the participants agreed that the papers were of a very good academic standard providing new knowledge and insights into map history. New entrants in the field had an opportunity to present their research to an engaged audience who had been encouraging and helpful to them. More generally, it was agreed that one or two day symposia were the best option for affordable participation by current scholars and their interested audiences. ISHMap will pursue this option in future.

## The Schulte collection goes to Iceland

Karl-Werner Schulte and his wife Gisela Schulte-Daxboek, who have been collecting early maps of Iceland for the past forty years, have now donated their collection of 76 maps, dated between 1547 and 1808, to the Municipality of Akureyri, Iceland's 'Capital of the North'.

The exhibition, the 'Schulte Collection', was officially opened in July this year in the Akureyri Museum. Its Director Haraldur Egilsson, the Lord Mayor of Akureyri, Eirikur Bjoern Bjoergvinsson and the German Ambassador in Iceland, Thomas H. Meister thanked the Schulte family for the donation and emphasised the importance of the collection for the citizens of Akureyri and of Iceland.

The exhibition is open to the public until the end of February 2015. Information: www.minjasafnid.is

*Right*
**Abraham Ortelius, 'Islandia', 1603. One of the maps of Iceland donated by the Schulte family to the Akureyri Museum. Courtesy, Akureyi Musuem.**

## Historic meeting of two map collectors

On 19 September two renown antique map collectors met at the National Museum of Fine Arts in Valletta, Malta's capital. They were 90-year-old Dr Albert Ganado, whose Malta map collection was exchanged with the Malta Government for his 1571 house, and 80-year-old Glen McLaughlin, whose collection of 'California As An Island' maps was recently part sold/part donated to Stanford University, California for the enjoyment of the general public. Both collectors took over 50 years to form their collections.

During the visit, Ganado showed McLaughlin several siege maps of Malta and explained in his usual erudite and flowing manner the various states and editions which were published in connection with the Great Siege of Malta of 1565. They narrated several episodes and anecdotes on how they had acquired certain maps in their collections. Then McLaughlin was shown a map of America by Jean de Beauvais published in Paris in 1788 and it was his turn to fill all those who attended the meeting with his wisdom on American cartography, in general, and Californian, in particular, and how it was the Jesuit priest, Father Eusebio Kino, finally ended the myth of California as an island.

The meeting ended with the presentation of two Malta Map Society publications, *German Malta Maps* and *The Early Maltese Cartographers*, by Society's president Dr Albert Ganado, to Glen McLaughlin.



*L to R*
**Rod Lyon, Glen McLaughlin, Albert Ganado and Bernadine Scicluna. Photo J. Schiro.**



## Exhibitions

**Until 4 January 2015, London**
National Maritime Museum
***300th Anniversary of the Longitude Act: Ships, Clocks and Stars: the Quest for Longitude***
There were valuable rewards on offer for whoever could determine longitude at sea. Europe, during the eighteenth and nineteenth centuries, was gripped with the problem, and the exhibition presents a selection of the ingenious methods and instruments that were designed and presented to the Board of Longitude. Information: www.rmg.co.uk

**Until 25 January 2015, Boston**
Norman B. Leventhal Map Center
This exhibition of forty maps, globes, games, atlases and related objects explores the evolution of geographic education for primary and secondary year students, examining the visual aids used by teachers in the classroom, and student-produced geography projects from the late 18th to the 20th centuries. Information, www.bpl.org/exhibitions/current-exhibitions/back-to-school/

**Until 25 January 2015, Princeton**
Main Gallery, Firestone Library, Princeton University
***Nova Caesarea: A Cartographic Record of the Garden State, 1666–1888*** commemorates the 350th anniversary of the naming of New Jersey. Coastal charts, manuscript road maps and early state maps provide a historical background to the major focus of the exhibition: the state's first wall maps and county atlases. Information: www.princeton.edu/~rbsc/exhibitions/main.html

**Until February 2015, London**
National Maritime Museum
***Guiding Lights: 500 Years of Trinity House and Safety at Sea***
Five hundred years ago, a fraternity of London mariners was given a charter by Henry VIII and became the Corporation of Trinity House, with instructions to improve the safety of navigation on the Thames. Since then, Trinity House has become the Lighthouse Authority for England, Wales and the Channel Islands. Information: www.rmg.co.uk

**Until February 2015, London**
The Royal Observatory Greenwich
***Longitude Punk'd*** celebrates some of the outlandish inventors, star-gazing scientists and explorers of the eighteenth century. Royal Museums Greenwich has commissioned eight British steampunk artists to create works inspired by the technical inventions that were presented to the Board of Longitude between 1714 and 1828. The exhibition features both fantastical inventions and real historic objects – blurring the boundaries between art and science, fiction and fact. Information: www.rmg.co.uk/about/press/2014-exhibitions

## Lectures and conferences

**2–6 December 2014, Ghent and Brussels**
A joint international symposium of the ICA Commission on Map Production and Geo-Business, the ICA Commission on the History of Cartography and the Brussels Map Circle, ***Cartography in Times of War and Peace***. Information: visit geoweb.ugent.be/histocarto2014

**6 December 2014, New York**
The New York Map Society, New York Society for Ethical Culture, 2.30 pm. John Hessler, will discuss his new book, *Christopher Columbus' Book of Privileges 1502: The Claiming of a New World*, co-written with Chet Van Duzer and Daniel De Simone. This is a facsimile edition of the Washington Codex, a manuscript cartulary brought together by Columbus containing all the charters and privileges granted him in his four voyages, along with essays by Hessler, Van Duzer and De Simone. Information: www.newyorkmapsociety.org

**5–7 December 2014, Berlin**
***(Re)Producing the North Space, Knowledge and Maps*** is the title of the second workshop for the multidisciplinary, international research project 'Negotiating Space, Arranging the Land' which focuses on the historical importance of mapping in the Nordic Countries. Information: Prof. Dr Ralph Tuchtenhagen, Nordeuropa-Institut, Humboldt-Universität zu Berlin, rtuchtenhagen@web.de

**11 December 2014, Washington**
The Washington Map Society, Library of Congress, 7pm.
**Joel Kovarsky**, author of *True Geography of Virginia: Thomas Jefferson's Cartographic Vision of America (2014)* will discuss his new book and insights on Thomas Jefferson's cartographic associations. Information: Ed Redmond, ered@loc.gov

**12 December 2014, Denver**
The Rocky Mountain Map Society, Denver Public Library, 5.30pm.
**Dr Ron Gibbs** will present ***On the Brink of Disaster: George Washington and the American Revolution***.
Information: rmmaps.org

**17 December 2014, Paris**
Salle de l'Atelier, Observatoire de Paris, 2pm.
***Les globes de l'abbé Nollet (1728): place et originalité de travaux cartographiques peu connus.***
Information: Jean.Eisenstaedt@obspm.fr; syrte.obspm.fr/histoire/semin1_histoire.php

**19 December 2014, Chicago**
The Chicago Map Society Annual Holiday Gala and Members Show-and-Tell, The Newberry Library, 5.30 pm. Information: Maisie O'Malley, contact@chicagomapsociety.org

**15 January 2015, London**
Warburg Institute, 5pm.
The Twenty-Fourth Series 'Maps and Society' Lectures in the history of cartography.
Dr Yossef Rapoport (Queen Mary, University of London), ***The World Map in the Fatimid Book of Curiosities (c.1050): Mathematical Geography between Late Antiquity and Islam.***
Information: www.maphistory.info/warburgprog.html

**5 February 2015, London**
Warburg Institute, 5pm.
The Twenty-Fourth Series 'Maps and Society' Lectures in the history of cartography.
Dr Robert Batchelor (Department of History, Georgia Southern University)
***Pacific Frontiers: The Selden Map and the Redefinition of East Asia in the***

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Gerard de Jode, *Universi Orbis Seu Terreni Globi in Plano Effigies* (detail), Antwerp, 1578.

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***Seventeenth Century***. Information: www.maphistory.info/warburgprog.html

**11 February 2015, Paris**
Salle de l'Atelier, Observatoire de Paris, 2pm.
***Un trésor patrimonial de l'Observatoire de Paris: le journal d'observations de Jean-Dominique Cassini***. Information: Jean.Eisenstaedt@obspm.fr; syrte.obspm.fr/histoire/semin1_histoire.php

**19–20 February 2015, Philadelphia**
***Paint over Print: Hand-Colored Books and Maps of the Early Modern Period*** will be held at the Kislak Center for Special Collections, Rare Books and Manuscripts, Van Pelt-Dietrich Library Center, 6th floor, 3420 Walnut Street. The conference will bring together scholars and experienced authorities who have looked at several different aspects of handcoloured books and printed maps from the fifteenth to the seventeenth centuries. Information: Chet Van Duzer, Box 1894, Providence, RI 02912; or Larry E. Tise, Brewster 312-A, East Carolina University, Greenville, NC 27858.

**24 February 2015, Cambridge**
Gardner Room, Emmanuel College, Cambridge. 5.30pm.
The Cambridge Seminars in the History of Cartography. Lt Cdr Dr John Ash (Scott Polar Research Institute) ***Polar maritime maps and charts***. Information: Sarah Bendall, tel. 01223 330476; www.lib.cam.ac.uk/deptserv/maps/camsem1415.html

**26 February 2015, London**
Warburg Institute, 5pm.
The Twenty-Fourth Series 'Maps and Society' Lectures in the history of cartography.
Captain Richard Campbell RN (Hakluyt Society Volume Editor) and Peter Barber (British Library), ***An account so just and exact: Captain Narbrough's voyage to South America 1669-71 and its cartographical significance***. Information: www.maphistory.info/warburgprog.html

**12 March 2015, London**
Warburg Institute, 5pm.
The Twenty-Fourth Series 'Maps and Society' Lectures in the history of cartography.
Katherine Parker (Department of History, University of Pittsburgh), ***A Tricky Passage: Navigating, Mapping, and Publishing Representations of Tierra del Fuego in the Long Eighteenth Century***. Information: www.maphistory.info/warburgprog.html

**23–24 April 2015, London**
Burlington House
***200 Years of Smith's Map*** The History of Geology Group (HOGG) is organising the Geological Society's flagship William Smith Meeting 2015 to celebrate publication of the first geological map of a nation 200 years ago. Event organisers: David Williams, Cherry Lewis, John Henry. Information: wmsmith2015@gmail.com

## Map Fairs

**6–8 February 2015, Miami**
The Miami International Map Fair will be held at HistoryMiami, 101 West Flagler Street. Dealers from around the world will exhibit and sell antique maps. Visitors are invited to bring in maps of their own for expert opinions and attend educational programs. Registration is available online. Information: Hilda Masip, Map Fair Coordinator, at HistoryMiami, www.historymiami.org; tel: 305-375-1618.

## Call for Papers

**23–26 September 2015, Dresden**
13th Symposium of the International Coronelli Society for the Study of Globes will take place from in cooperation with the *Mathematisch-Physikalischer Salon* in Dresden (Germany). Suggested topics for discussion include the history of globes, globes in their historical and socio-cultural context, as well as globe related instruments. The conference will be conducted in German and English (no interpreters available). Paper proposals must be submitted in English or German (max. 250 words) to International Coronelli Society, c/o Jan Mokre, Austrian National Library, Globe Museum, Josefsplatz 1, 1015 Vienna, Austria. Email: vincenzo@coronelli.org by 31 March 2015.



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# EXHIBITION REVIEW

## *An explorative reinterpretation of the traditional art of maps*

**Jacqueline Macnaughtan**



This year the Map House joined into the spirit of the 2014 London Design Week, exhibiting some intriguing illustrative variations of traditional maps by the artist Kristjana S. Williams: *An explorative reinterpretation of the traditional art of maps* in three of its galleries at Beauchamp Place, Knightsbridge.

The various elements of these unusual illustrations, assembled and realised with an assured sense of design and unexpected colour combinations, begin with their underlying fields of eighteenth- and nineteenth-century maps of cities, countries and the world. Williams then 'customises' them, glancing back at earlier cabinets of curiosities, with elaborate cartouches and bordering scrolls. She overlays and interweaves the maps with fantastically enhanced flora and fauna, seemingly inspired by, or taken from diverse sources, amongst them Pliny's natural history, medieval bestiaries, pattern books and illustrations for children from Victorian decoupage.

Jolly saurians amble along some lower margins and monkeys swing across from the uppermost border. Within, double-horned zebras, larger and smaller birds of every description and composition are also part of this menagerie; a plumed leopard eyes the scene from under startlingly feathered eyebrows; caterpillars meander across the globe; brilliantly coloured butterflies flit through palm fronds near colder climates and weave throughout the luxuriant foliage, whilst Morning Glory incongruously festoons Antarctic regions. And occasionally, drifting across oceans, there is a Montgolfier hot-air balloon, or a sailing ship. The border cannot contain all this exuberance and butterflies, flowers and foliage spill over as delicate small 3-D paper sculptures add further texture, resulting in memorable framing.

As the Dadaists found, the use of collage – incorporating and juxtaposing previously unrelated elements into one design – immediately offers the

viewer a complex yet visually poetic space. The differing scales of all the elements in William's illustrations are placed according to the dictates of her designer's eye, with little aspiration to literal comparisons of scale or proportions. This whimsical bestiary, in a surreal world of flora and fauna, could be a Lewis Carroll-like variation on more familiar models. There can be no quick or cursory scanning; rather, the viewer is invited to hover, to pause, to scan from a further distance, to zoom in again to a small and brilliant delicate detail.

The opening night saw an unusually varied mix of visitors. Map enthusiasts rubbed shoulders with those from the art and design fields, the latter often equally interested by the traditional maps also on display in the lower gallery of the Map House. Judging by some of the ensuing conversations, it is a fair bet that some of these may yet become map collectors, whilst conversely, many with a more antiquarian bent obviously enjoyed the unusual 'reinterpretation'.



**Fig. 1 'Blue world map', a one-off hand-cut paper collage.**

**Fig. 2 Detail of 3-D sculptural work framing the 'Blue world map'.**



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***Systema Ideale Pyrophylaciorum Subterraneorum*, by Athanasius Kircher, 1682.**
This unusual copper engraving shows a cross-section of the earth's interior with its magma core. The surface of the earth is shown with erupting volcanoes and ships sailing in the oceans. The Jesuit scholar Athanasius Kircher was one of the first compilers of semi-scientific knowledge about the physical features of the world, including mountain springs, earthquakes, and volcanoes.
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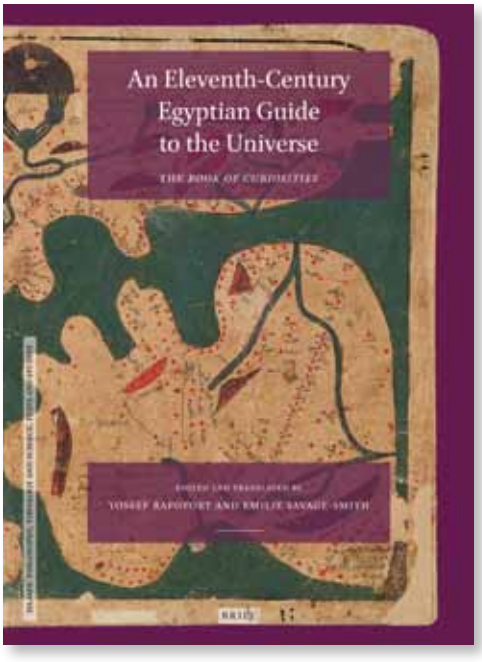


# BOOK REVIEWS

*A look at recent publications*

## An Eleventh Century Egyptian Guide to the Universe, The Book of Curiosities

edited and translated by Yossef Rapoport and Emilie Savage-Smith. *Volume 87 in the series Islamic Philosophy, Theology and Science. BRILL, Leiden, 2013. ISBN hardback 978-90-04-25564-7; ISBN e-book 978-90-04-25699-6. xii, 796 pp. with 51 illustrations and colour facsimile. €223; $289 US.*




'In June of 2002, the Bodleian Library, University of Oxford, acquired a highly illustrated manuscript of a hitherto unknown Arabic cosmographical treatise [Kitáb Ghara'ib al-Funún wa Mulah al- `Uyún / The Book of Curiosities of the Sciences and Marvels for the Eyes]. This newly discovered manuscript contained a remarkable series of early maps and astronomical diagrams, most of which are unparalleled in any Greek, Latin and Arabic material known to be preserved today. No less importantly, both the illustrations and the text preserve material gathered from Muslim astronomers, historians, scholars and travellers of the ninth to eleventh centuries, whose works are now rather lost or preserved only in fragments.

The manuscript is a copy, probably made in Egypt in the late twelfth or early thirteenth century, of an anonymous work compiled in Egypt between AD 1020 and 1050.'*

This highly illustrated manuscript has been recognised as extraordinarily important for the history of science, especially for astronomy and cartography. In comparison with the well-known Islamic geographical work *Hudúd al-`Alam* [*The Regions of the World*], written in Persian in the late tenth century, the *Book of Curiosities* is weaker in providing geographical information in the text, but has the immense advantage of having fifteen maps and thirteen celestial diagrams and other images, while *Hudúd al-`Alam* lacks any maps or illustrations.

*'The Book of Curiosities* is divided into two parts. The first part, on celestial matters, is composed in ten chapters, and begins with a description of the heavens and their influence upon events on Earth. It contains a number of unique illustrations and rare text, including an illustrated discourse on comets and several pages depicting various prominent stars nearby the "lunar mansions", which are star-groups near the ecliptic whose risings and settings were traditionally used to predict rain and other meteorological events. The author's interest throughout the book is primarily astrological and divinatory, and no mathematical astronomy is presented. The second book, on the Earth, is divided into twenty-five chapters. According to the author, this second book is largely dependent upon the *Geography of Ptolemy*. In general, however, the author's interest is descriptive and historical than mathematical.'

Along with geographical and historical text, the manuscript contains two world maps, one rectangular, and one circular. The author then follows with maps of the great seas known to him, which were the Indian Ocean, the Mediterranean and the Caspian. As a sample, the short text on the Caspian Sea reads: 'This sea [The Sea of Khazarán = Caspian Sea] does not connect with any of the seas which are around it, except for what enters it from Nahr al-Rús, known as Itil [the river of Volga]. If a person travels around this sea he will return to where he started, without any hindrance or obstacle. It is a salty sea with no rising or ebbing. Its bottom

is dark. Nothing is retrieved from it except fish. Merchants sail over it from the Muslim lands to the Khazar lands. It is shallow'. (p. 465)

The author was particularly interested in depicting the shores of the Mediterranean, of which he probably had first-hand knowledge. Besides the detailed schematic map of the coasts and islands of the Mediterranean, the treatise also contains unique maps of Sicily and Cyprus. The book also includes fine river maps (the Nile, the Euphrates, the Tigris, the Oxus and the Indus). The concluding five chapters describe 'curiosities' such as monstrous animals and wondrous plants.

The acquisition of the *Book of Curiosities* in 2002 at a price of about £400,000, well under the true market value, was made possible by a grant from the English Heritage Lottery Fund and generous donations from some other charities and individuals. In 2007 an electronic high-quality reproduction of the Bodleian manuscript and its illustrations, linked by mouse-overs to a modern Arabic edition, and a preliminary English translation was made available at www.bodley.ox.ac.uk/bookofcuriosities, accessible to all researches, scholars and others free of charge. It includes also a 'User's Guide' in eleven pages, which is a great help for easy accessing of different parts of the e-book.

In 2014 a full edition of the treatise, taking into account all the later incomplete manuscript copies found in other libraries, was printed superbly by the well-known publisher BRILL of Leiden. In addition, this printed version provides an annotated English translation and a facsimile reproduction of the entire Arabic manuscript. It allows readers to examine the treatise as a whole in a way that is not possible in an online edition, and to consult an authoritative edition and translation that reflects the decade-long study of the Bodleian manuscript and other copies.

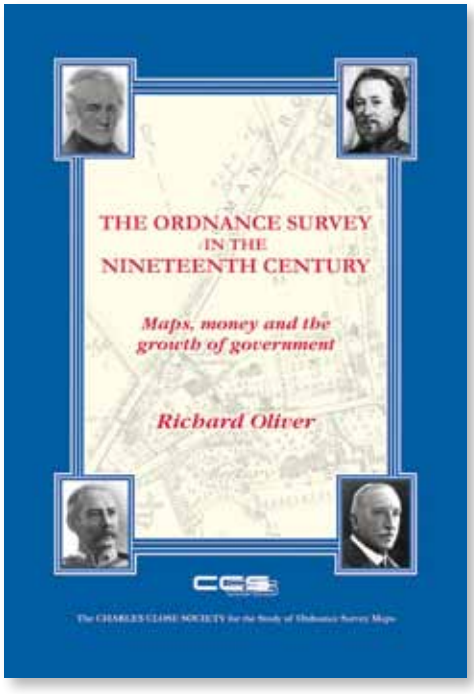
This carefully edited and translated medieval work is a must-have item in any collection of research materials on the history of cartography. Professor Emilie Savage-Smith and Dr Yossef Rapoport and also the publisher BRILL must be thanked for their invaluable endeavours and congratulated for producing and making accessible the *Book of Curiosities*, which has been recognised as one of the most important discoveries in the history of cartography in recent decades.

Cyrus Alai, London

* This paragraph and some other lines in this review have been taken from the 'Introduction' by Professor Emilie Savage-Smith.

## The Ordnance Survey in the Nineteenth Century: Maps, Money and the Growth of Government by Richard Oliver.

*The Charles Close Society, London, 2014.*
*ISBN hardback 978-1-870598-32-3. xxvii + 607pp;*
*16 colour plates, many monochrome illustrations. £45 STG.*




Richard Oliver's long-awaited Ordnance Survey history is a handsome addition to the historiography of Britain's national mapmaker. Now that the Ordnance Survey publishes seamless digital data, this book reminds us about the conventional analogue paper origins of the mapping upon which all modern cartographic developments are founded.

The book is a considerable extension of Oliver's doctoral thesis which only examined the Ordnance Survey from 1836 to 1870. The present volume takes the story back to the late eighteenth-century origins and on to the eve of the Great War in 1914. The book is principally about the political context of the Ordnance Survey in the long eighteenth century, this being its main distinctive contribution. The chapter arrangement is broadly chronological, though chapters at the beginning and end look at wider themes and the maps themselves. Thus Chapter One sets the scene for the development of what became Britain's cartographic national treasure by providing the broad socio-economic context in which the Ordnance Survey emerged in the late eighteenth

century. Chapter Nine looks more at the maps themselves by focusing on scales.

Each era is usefully characterised by a theme; thus the 1830s Age of Reform, or the 1850s Battle of the Scales. This allows the organisational emergence of the Survey to be related to wider contemporary developments. The result is a scholarly and thorough work which nicely balances analysis with a wealth of supporting detail, evidenced by an extensive knowledge of the subject and copious footnoting. The work is original in drawing upon unpublished and little known sources in the National Archives. From this painstaking research the author is able to propound arguments and convincing generalisations about the nature of the Ordnance Survey and its uniqueness. One aspect of this is that no other country published so much large-scale mapping for the general public. In particular, the author examines the relative success of the Survey in procuring public money for a national state-funded mapping project in a laissez-faire era. Along the way in the historical narrative are presented some appealing vignettes of personalities and human stories. We have the case of the survey of the Island of Lewis, for which the Ordnance Survey received financial subsidy from the laird to map it sooner than planned. Staff relations and frictions at the Ordnance Survey are also illuminated. In contrast, at the other end of the political scale, we find Gladstone's portrayal as a friend of the Ordnance Survey, and details of the personality and difficulties of Director General Hall. There is also mention of precocious and ambitious technical innovations such as photozincography.

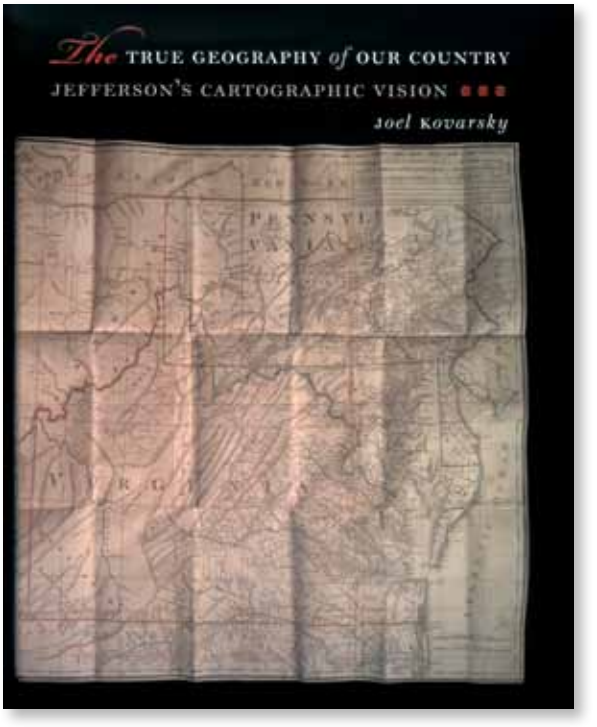
The result of Oliver's research is a nicely written and engaging study of a mapping organisation in its wider context. The style will appeal to a general and international readership as well as Ordnance Survey specialists. The volume has sixteen colour plates, containing more than sixteen separate illustrations: a major asset to a cartographic study. The book might, with benefit, have been produced with wider margins and, given the subject matter, a larger physical format. Nevertheless, the overall impression is of a very nicely presented and organised book. Importantly for a graphic subject, the illustrations are very high grade quality and many of the maps can be read to advantage with a magnifying glass! The inclusion of portraits of all but the first head of the Survey is a first. The many colour and even more monochrome map reproductions are handsomely supplemented by table and useful appendices. The latter include comparative data on some overseas official surveys in 1857 – which include contrasts with extinct polities such as Batavia. This will give the book added salience for an international readership.

*The Ordnance Survey in the Nineteenth Century* is an important contribution to the study of the survey organisation in particular and the history of cartography in general. A little thin on the maps themselves, the book can with advantage be read alongside the same author's *Concise Guide* to Ordnance Survey maps also published by the Charles Close Society. As the author acknowledges, the story from 1914 is still there to be told. The Ordnance Survey has gone from being a publisher of hundreds of thousands of map sheets, to, at least for larger scales, effectively just one enormous single digital map. A study of developments since 1914 would thus make an illuminating sequel to Oliver's study.

Dr David Fletcher, London Metropolitan University

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**The True Geography of Our Country: Jefferson's Cartographic Vision** by Joel Kovarsky. *University of Virginia Press, Charlottesville & London. ISBN hardback 978-0-8139-3558-4; ISBN e-book 978-0-8139-3559-1. xiii + 185 pp; 28 black & white illustrations; notes, bibliography and index. $35 US.*



This well-presented volume details original historical research; as the title and numerous text phrases imply, it is written by an American, especially for American readers. However, this collation of exploration and chorography with which Thomas Jefferson was involved is of wide interest beyond the USA. As Ronald Grim, Curator of Maps, Norman B. Leventhal Map Center (Boston Public Library), wrote on the dustcover, the book is based on thorough and solid research offering new perspectives about Jefferson's late eighteenth- and early nineteenth-century geographical contributions. The research, much based on original documents, is well referenced in the 21 pages of notes, although dates of published sources must be sought in the twelve-page bibliography.

While so much has already been written about the life and achievements of Thomas Jefferson, it is useful to have his outstanding contributions to early chorographic surveying and mapping examined. However, Kovarsky places so much emphasis on Jeffereson's devotion to nurturing and utilising careful and thorough surveying and cartography throughout his life that non-American readers may need reminding of Jefferson's huge role in the early evolution of the USA as lawyer, politician, Governor of Virginia during the American Revolution, a principle author of the Declaration of Independence and the third President (1801–09).

The book is deliberately topical, not chronological; each of its eight chapters is a separate essay about Jefferson's thinking and work within a broad chorographical frame. This works well, although possibly confusing to those not wholly familiar with American historical chronology; also, it has resulted in considerable repetition and several long quotations appear twice, for example, seventeen lines of Jefferson's 1791 letter to Major Pierre L'Enfant about siting the nation's capital appear on pp. 19 and 98–9.

Details are given of how Jefferson gathered and collated data for his only printed map: 'A Map of the Country between Albemarle Sound and Lake Erie ...', published in London in 1787, with Philadelphia as prime meridian. On the dust cover, the map is reproduced in colour but, like all other figures, it appears in black and white in the text. Some 22 other contemporary maps and charts which influenced, or were influenced by, Jefferson are reproduced. Although all are extremely sharp, most are so reduced that, even with a magnifying lens, details cannot be read; scales at which the original maps were drawn and their sizes are unspecified, despite reference to Jefferson's understanding of the concept of scale.

A wealth of information about Jefferson's role in preparations for the exploration and survey of the vast Louisiana Purchase appears in Chapter 4, 'Jefferson as Expedition Planner'; sketch maps showing old and new referenced rivers would have been invaluable for the reader (e.g., Rio Norte and Missouri Rivers). It is eminently clear throughout the book that 'Jefferson was an integral part of the history of the nation's [the USA's] territorial expansions during the late eighteenth and early nineteenth centuries ... His knowledge of geography and cartography was crucial to his role ... He understood not only that existing maps were crucial for the successful planning of an expedition, but that map production was an important product of the endeavors, and facilitated future scientific development, lands claims, and commerce'.

Chapter 5, the second longest, describes with extensive quotations Jefferson's prolific geographical contributions to the transatlantic Republic of Letters – the epistolary exchange of chorographical data around the world. In Chapter 6, Kovarsky examines in detail Jefferson's belief in, and contribution to the Manifest Destiny of his nation to expand throughout the continent, a destiny he considered based on Right of Discovery, Natural Law, the Louisiana Purchase and Lewis and Clark's expedition; Kovarsky does not allude to any opposing views to such a moral mission justifying the largest acquisition of US territory, and slavery.

Using Jefferson's substantial contributions to the early mapping of the USA throughout his long productive life as the focus of study, this book provides a useful and thorough examination and review of the thinking and methods behind the creation of early maps in the USA, rather than merely a description of those maps.

E. H. Timothy Whitten,
Widecombe-in-the-Moor, England

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