MAPLINES

THE MAGAZINE OF THE BRITISH CARTOGRAPHIC SOCIETY

BRITISH CARTOGRAPHIC SOCIETY

60th Anniversary 1963–2023

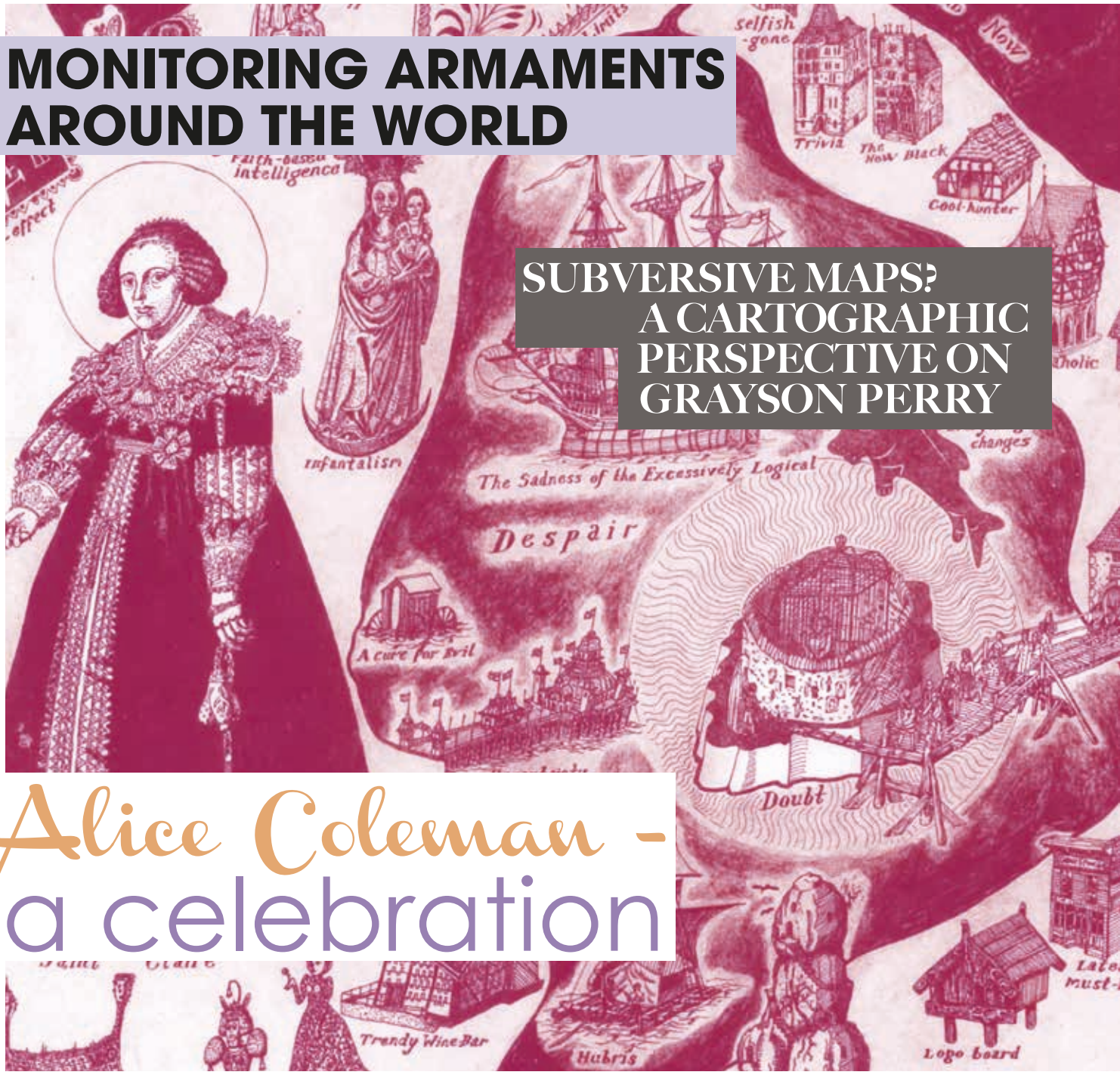
SUMMER 2023

UK £4.50

MONITORING ARMAMENTS AROUND THE WORLD

SUBVERSIVE MAPS? A CARTOGRAPHIC PERSPECTIVE ON GRAYSON PERRY

Alice Coleman – a celebration



CONTENTS

Roger Anson 1943–2023

It is with great sadness that we heard of the death of Roger Anson on 6 June in Oxford. As a former member of the Society, Roger made a significant contribution to the Society over many years, including standing as President from 1994–1996.

He was also editor of the ICA news, co-chair of the ICA Commission on Education and Training, and chair of the ICA publications committee.

Many of us will have fond memories of him. A full obituary will be published in a forthcoming issue of *The Cartographic Journal*.

EDITORIAL TEAM

We always welcome ideas and submissions from our members. For more information and to submit your articles, email maplines.editors@cartography.org.uk

Deadline for submissions for the winter 2023 issue:
16 October 2023

CONTACTING US:

For all enquiries, contact BCS Administration, Ros Derby (admin@cartography.org.uk)

Printed and distributed by Bishops Printers Ltd
Designed by Lorraine Grist at Pink Salt Design

Front cover image shows Grayson Perry's 'Map of Nowhere'. See pages 26–28.

britishcartographicsociety
British Cartographic Society
@bcsmaps

Registered charity in England and Wales No. 240034

FROM THE BCS PRESIDENT

Dr Seppe Cassettari
seppe.cassettari@cartography.org.uk

We are well into the 60th Anniversary year of the British Cartographic Society. It is quite some achievement to have reached this milestone and I hope as many of you as possible will be able to join the celebration in Cambridge this September.

Whenever you hit a significant milestone it makes you ponder the issue of age. What it brings and what you lose. It certainly brings wisdom and experience but perhaps there is that drop in vitality and that impetuousness that can drive change. All of which apply to the BCS as much as they would to any of us.

That is why it is so important that we ensure that the Society maintains its broad age range across the whole membership and in particular within the council and committees. Innovation and responsiveness are key to ensuring the Society stays relevant and important within the rapidly evolving geospatial world.

Not only is this a time to celebrate a long and successful heritage but it is also the time to start planning for the future.

Thank you very much for putting your trust in the officers and council members who you elected at the AGM in June but for many of us this will be the last year we can stand under the current constitution. I would like to provide assurance to you that there is the necessary succession planning to ensure the BCS has the prospect of continuing to have a key role way into the future. So, if you are interested in helping set out that future vision or want to contribute to the work of the Society, please get in touch.

Finally, I would like to thank the AGI for entering into a partnership to co-promote each other. I firmly believe that only by collaborating and sharing can the various societies, interest groups and professional bodies prosper and thereby support the exciting and dynamic geospatial community.

UPCOMING EVENTS

SEPTEMBER
20–21
BCS 60th Anniversary Conference
(see pages 16–19)
British Antarctic Survey Headquarters, Cambridge

OCTOBER
19
Teatime Talk: Map Memoirs

NOVEMBER
16
Teatime Talk: Map Memoirs

DECEMBER
21
Teatime Talk: President's talk

2024
We're now planning our programme for 2024. With the return to in-person events and working, we are considering the best way to deliver our talks and events.

Of course, we'll let you know what's happening in due course.

OUR MEMBERSHIP

Our Society is proud of its varied membership, welcoming people who work in the sector, students and teachers, as well as those simply with a love of maps. We have members who are at the start of their cartographic journey as well as those who have retired after a rich career in the sector. Each month, we feature a member who is happy to share their story as well as their favourite map-related projects.

This issue, we've asked Chris Beacock from HARVEY Maps, about his cartographic background.

WHAT IS YOUR ROLE AND WHAT ARE YOUR CARTOGRAPHIC QUALIFICATIONS?

I am the Production Manager at HARVEY Maps. I started working at HARVEY Maps as a cartographer in 2007 and have been Production Manager since 2017.

After a degree in geography at Glasgow University I stayed on for a further year to complete an MSc in Cartography and Geoinformation Technology. I then worked at HarperCollins publishers, Lancaster University and Strathclyde Partnership for Transport before joining HARVEY Maps.

Primarily the Production Manager's role involves organising all aspects of the production of new maps and the revision and reprinting of our existing titles. This involves working closely with the rest of the photogrammetrists and cartographers on the team to ensure our maps are produced to schedule. I am also closely involved in the field-checking of the map data, meeting clients regarding contract mapping projects, and liaising with commercial printers. It is a very varied role.

WHAT INSPIRED YOU TO WORK WITH MAPS?

Like many kids I was fascinated with world maps, atlases, globes and that sort of thing. Then as a teenager I was introduced to the Duke of Edinburgh's Award and the expedition part of the scheme really resonated with me. I made the connection that a map is all you need to enable you to explore the wider world, and that begins on your doorstep. Before long, me and my mates were going on camping trips at every opportunity, planning more and more elaborate routes further and further afield. I was always the one with the map, studying the routes in great detail in the tent, and doing the navigating (not always successfully) the next day.

WHAT IS THE MOST EXCITING MAP-RELATED PROJECT YOU HAVE WORKED ON?

One of the most interesting projects I have worked on is *The Munros – the Complete Collection of Maps*, a hardback atlas containing HARVEY mapping of all 282 Munros (Scottish hills over 3,000 feet and named after Sir Hugh Munro who first collated the list).

Over the years, HARVEY Maps had steadily published maps for outdoor pursuits and it was the long-term goal to map all the Munros. By about 2017 we were about 25 hills away from completion, so we set ourselves the target of publishing maps of all the Munros by 2019, to coincide with the centenary of the death of Sir Hugh Munro.

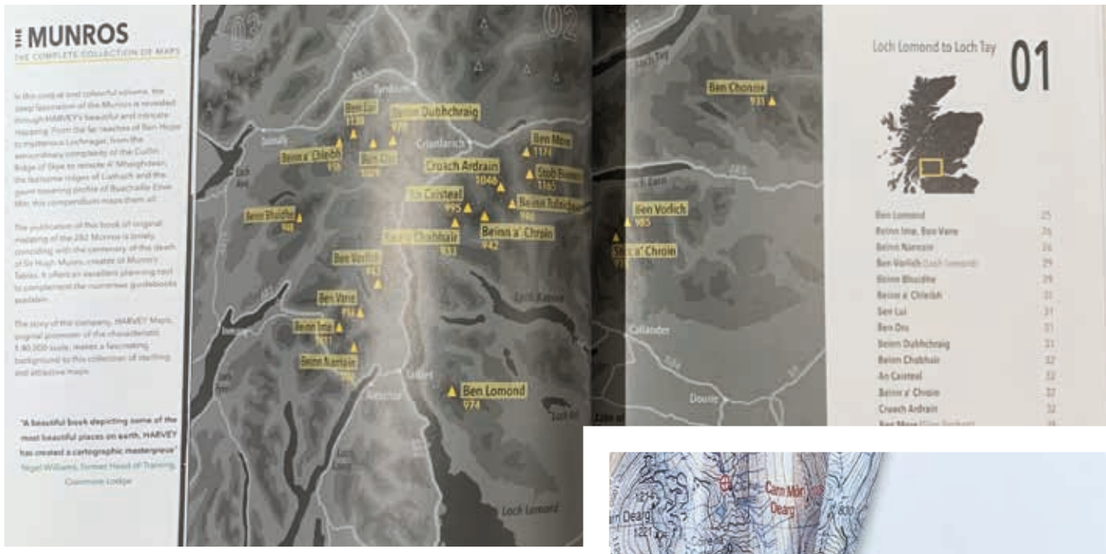
In many ways, making the maps was the more straightforward part of the project – photogrammetry, cartography and survey is part and parcel of what HARVEY Maps has been doing for years. What I found the most exciting about this project was being involved in the design process of a large publication from the very beginning, and making the fundamental design decisions on how the finished book will look – format, fonts, colour palettes, layout, cover designs, even down to what paper stock to use.

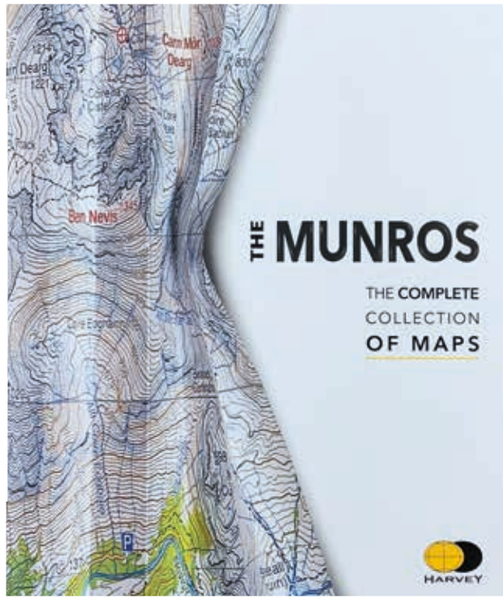
As Production Manager it was my job to ensure the whole process went smoothly. We are a small team at HARVEY Maps and everybody was involved in the making of the book – not least when a lorry with the first print run of 3,000 books arrived and we all had to unload the boxes by hand!

Your membership rate has stayed the same:
Full: £40 (£55 overseas)
Student: £20
Affiliate: £20 (£35 overseas)
Fellow: £60 (£75 overseas)
Corporate: £240 (£200 + VAT) (£215 + VAT overseas)
Small Corporate: £120 (£100 + VAT) (£115 + VAT overseas)

Contact Elaine Watts, Chair of the Membership Committee, with any suggestions or feedback about your membership.

elaine.watts@cartography.org.uk





Alice Coleman – a celebration

Professor Alice Coleman, perhaps best known to BCS members as the Director of the Second Land Utilization Survey (LUS) of Britain, died on 2 May this year. Born on 8 June 1923, she sadly passed away just short of her hundredth birthday. The maps produced by the Second LUS provide an important, if partial, snapshot of the landscapes of Britain in the 1960s. Based on Ordnance Survey 1:25 000 maps, land use is shown in detail down to individual fields and buildings. The First LUS was undertaken during the 1930s under the directorship of Prof. Sir L Dudley Stamp – national map coverage at 1:63,360.

Professor Coleman began her career as a schoolteacher before becoming a lecturer in geography at King's College, University of London. Her wider research influenced urban housing policy, rural and urban planning. She was, with William Balchin, an advocate for the importance of 'graphicacy' in education, especially in relation to maps. This article will, for obvious reasons, focus on her leadership of the Second LUS and its enduring legacy as a resource for research and for education.

Professor Coleman's roots were in East Kent (educated at Clarendon House Grammar School, Ramsgate), this later led her, with others, to set up the Thanet Branch of the Geographical Association (GA) (1956). Noting that significant change had occurred in East Kent since Stamp's First LUS, Alice Coleman proposed a new survey covering about 500 square miles (c.1,300 sq. km). The survey, completed by mid-1959, was presented at the GA national conference in 1960. From this project, a new national survey under her Directorship evolved, involving some 3,000 volunteers surveying about ninety per cent of England and Wales – an early example of 'citizen science'.

Sadly, unlike Stamp's survey, it did not result in complete map coverage – only 115 sheets were published – but these maps, however, provide a rich insight into the past. As I write I am surrounded by some of the maps in my collection, including six covering London and the Thames from Barnes to Gravesend. The 'City of London' sheet (TQ 28/38) is fascinating; for such a populous city the large amount of green space (parks, recreation grounds and cemeteries) is remarkable, but perhaps more surprising is the substantial areas labelled as 'Heath, Moorland, Rough Land'; including Hampstead Heath, the marshland of the Lee Valley, and smaller patches of encapsulated countryside. Another very visible category is 'Transport', particularly large swathes of land dedicated to rail services (works and sidings).

These maps remain a fantastic resource for field teaching. The Gravesend sheet (TQ67 and TQ77) is, for example, part of a package of materials being developed as a teaching resource for primary schools in Kent (a Research England funded partnership between the BCS, the Historic Towns Trust and Canterbury Christ Church University). The Gravesend map provides evidence for decline in heavy industry, with a range of Thameside factories on the Kent shore (e.g. 'Engineering, shipbuilding and electrical goods', 'Paper and printing') now replaced by hotels, superstores and distribution facilities, albeit with some light industries interspersed. On the positive side, areas labelled as 'Derelict Land' and 'Tips' on the map have been transformed into green space, for example, the Northfleet Urban Country Park. The large wedge of land given over to dock facilities at Tilbury, on the Essex side of the river, retains its usage, now the largest port on the Thames, with a throughput of 16 million tonnes per year (estimated value of nearly £9 billion).

Professor Coleman's experience of land use mapping led her to question contemporary planning, especially related to friction at the 'fringes' between 'environmental territories', for instance problems of urban sprawl at the 'rurban fringe' (rural-urban interface). Her 'Scapes and Fringes' concept provides a useful starting point for investigation of processes leading to change and potential land use conflicts using map and field inquiry in teaching. Used in conjunction with the First LUS maps and contemporary data (e.g. online aerial photos and maps) change-mapping provides an opportunity for students to explore how planning and policy, and changing economics have led to significant change.

Professor Coleman also contributed to a significant GA series promoting cartography in the 1960s – British Landscapes through Maps. Each guide was written by a prominent geographer with expertise in a specific location, focusing on a single OS map sheet. Coleman, with Dr Clare Lukehurst, chose the East Kent Sheet 173. These guides are still to be found in public libraries countrywide and remain valuable insights into local geography.

Professor Coleman's maps continue to provide a wonderful resource for learning and are a cause for celebration of her life.

Peter Vujakovic, Emeritus Professor of Geography, Canterbury Christ Church University

Mapping Histories of South Asia

A history of Indian surveyors and the history they mapped along the way

Afifa Khan, Rosie Campbell, Rebecca Roberts; Mapping Archaeological Heritage in South Asia

Bursting with reports and missives created as part of British colonial administration, archives relating to the Survey of India (SoI) have led to many written histories. However, the majority of records come from British surveyors and administrators. Despite relatively scant mentions, a vast amount of work was conducted by Indian surveyors and staff. From recording sites on the ground, traversing difficult landscapes, to communicating with locals and caring for animals, the Indians of the early Survey of India were central to the everyday working of the institution, yet were rarely acknowledged as professionals in their own right compared to their British counterparts. Our interest in the surveyors of India came about as a process in reverse. We began with modern maps, worked our way back to the original colonial maps, and then noted the names of Surveyor Generals and surveyors written in the margins. The Indians on the team are not usually mentioned, except in a small subset of maps published prior to 1905 (image 1). These few names sparked a journey to the records of the survey of India to find out more about these little-known histories of mapping.

The Survey of India grew from the Great Trigonometrical Survey (GTS), begun in 1802 under the East India Company (EIC) to survey the Indian Subcontinent and adjacent territories of British interest. In 1878 came a more structured and coherent agency to unify the different mapping teams under one branch managed from the main offices in Dehra Dun, Uttarakhand (Edney, 1997). Under the instruction of the Surveyor General, teams were sent to locations throughout the Indian Subcontinent to calculate levels and triangulate locations, while also recording key natural and anthropic features. Data was compiled and defined under the hands of skilled cartographers, calculators and mapmakers to create an incredibly accurate and detailed snapshot of the land, which now serves as a hundred-year-old cartographic archive.

While biographies have been written on the lives of the British Surveyor Generals, the Indian members of the SoI were somewhat of a mystery. Integral to the everyday operations of mapping and yet second class to all their European team members, their contributions were rarely recorded. In the process of mapping they were aiding the colonial administration, however they were also contributing to the advancement of the science of surveying (image 2). They were also among the first people to record what are now some of the most famous archaeological sites in the world, documenting heritage sites that have since been lost to agricultural fields, modern developments, or hidden under the sands. Although the surveyors seldom recognised their historical significance, many archaeological sites are marked on maps as mounds and abandoned villages. Some of the most famous of these are the Indus Valley (c. 3300–c. 1300 BCE) sites of Mohenjo-daro, Dholavira and Kot Diji. The 'Great Stupa' at Mohenjo-daro, for example, appears to have been used as a Secondary Station in 1901, long before its 'discovery' by archaeologists nearly twenty years later (image 3). Reports of the Archaeological Survey of India reveal that they received 'glowing accounts' of this area for its archaeological potential (ASI, 1912:5) and it is possible that some of these came from the SoI surveyors.

Records of exceptional circumstances represent some of the rare occasions when Indian surveyors were mentioned by name, giving insights into their amazing lives. During WWI, many surveyors joined the war effort by producing maps on the front lines in France and Mesopotamia. In 1919, during Sheikh Mahmud's rebellion, surveyors Purdil Farman Ali, Khan, Tula Ram and Amar Singh were captured by Kurdish forces and imprisoned in Kirkuk. Each surveyor soon made daring escapes. Tula Ram and his assistants by running out into the night and trekking 40 miles back to safety, and Amar Singh by buying his freedom. Purdil Khan was able to convince his captors that RAF bombers flying coincidentally overhead were sent on his behalf. With this strategy, he was not only released, but driven back to his camp along with his plane table and data intact (Tandy, 1925:52).

As part of the Mapping Archaeological Heritage in South Asia (MAHSA) project, we have been documenting and digitising the features first seen, recorded and drawn by the Indian surveyors more than a century ago. We have the privilege of not only following their adventures in maps, but also visiting some of these sites. By highlighting their stories, we hope to take them out of the margins of maps and history, encouraging reflection on our own roles in mapping our landscape and history.
(Image 4)

References

Archaeological Survey of India. 1912. Archaeology; Progress Report of The Archaeological Survey of India, western Circle for the Year Ending 31st March 1912, Bombay: Government of Bombay.

Edney, M.H. 1997. Mapping an Empire: The Geographical Construction of British India, 1765-1843, Chicago: University of Chicago Press.

Tandy, E.A. 1925.Records of the Survey of India, Volume 20. The War Record 1914-192. Survey of India, Dehra Dun.

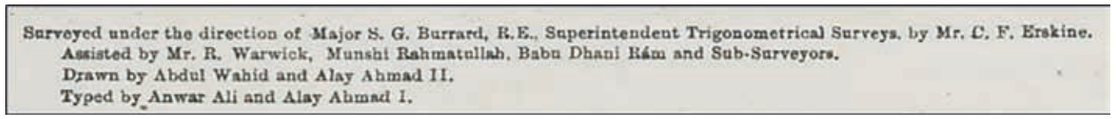
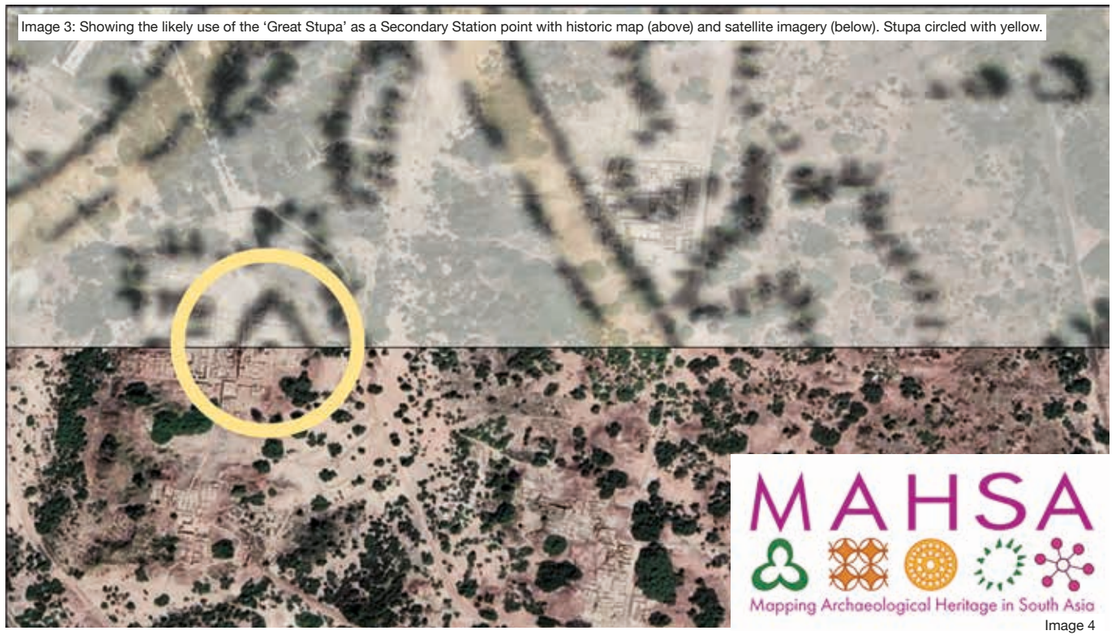

Surveyed under the direction of Major S. G. Burrard, R.E., Superintendent Trigonometrical Surveys, by Mr. C. F. Erskine.
Assisted by Mr. R. Warwick, Munshi Rahmatullah, Babu Dhani Rám and Sub-Surveyors.
Drawn by Abdul Wahid and Alay Ahmad II.
Typed by Anwar Ali and Alay Ahmad I.

Image 1: Associated people with Mohenjodaro map IOR/X/9875/1/41/1903

Image 2: Survey of India workers checking a plane-table in unknown location. 1909 photographed by Liet.Baker.


CHECKING A PLANE-TABLE.

Image 3: Showing the likely use of the 'Great Stupa' as a Secondary Station point with historic map (above) and satellite imagery (below). Stupa circled with yellow.



MAHSA
Mapping Archaeological Heritage in South Asia

Image 4

Interview with Njeri Murage

MONITORING ARMAMENTS AROUND THE WORLD

It was a pleasure to meet Njeri Murage at the recent Geospatial World Forum event in Rotterdam. She is a GIS Specialist, based in Kenya, where she is also a co-Founder of Women in GIS (Kenya). Here we talk about her work at Conflict Armament Research (CAR),[1] identifying weapons and ammunition in regions of conflict to help curb diversion and proliferation by understanding their global supply chain, as well as her work supporting women in GIS within Kenya. All of these endeavours are in support of UN Sustainable Development Goal 16 to promote peaceful and inclusive societies.

Q1. Describe what role you have at CAR and what they do.

Njeri: I am the Head of Systems and joined Conflict Armament Research (CAR) as a GIS Specialist in 2021. CAR's headquarter is in London but I am currently based in Kenya with work requiring travel to different countries including the UK and USA. CAR is an independent investigative organisation that focuses on documenting weapons, ammunition and other items like night vision and chemical materials that have been illicitly supplied into conflict zones. We then work to trace their supply sources and understand how the material ended up in the possession of actors including terrorist organisations and criminal groups.

Q2. What have you done previously to working at CAR?

Njeri: My previous roles have been working as a space scientist under the Space Design and Management Master of Science Program at the University of Sapienza, Italy, to participate in building, designing and testing the first nanosatellite in Kenya under the Kenya Space Agency. This was part of the first Kibo-Cube Programme sponsored by the United Office of Outer Space Affairs. I also worked for ESRI Eastern Africa as a solutions engineer to develop geospatial tools for various organisations. I then took another MSc in Geospatial Science and Earth Observations for Geoinformatics in the Netherlands before starting my role here at CAR.

Q3. What does a typical project look like at CAR?

Njeri: CAR is committed to working towards understanding the landscape of illicit weapon flows and to mitigating the supply of conventional arms to unauthorised users, including insurgent and terrorist forces. In doing so, we generate unique information on weapon supplies into armed conflicts to inform and support effective weapon management. Our field teams document the weapons by taking photographs and primary information. We then ingest this into our global iTrace® database, and the information goes through a series of quality assurance processes to ensure the highest possible level of accuracy and clarity. My work then entails database management housekeeping processes, creating the data services and availing this for the creation of maps and dashboards that depict the movement or global supply chain of arms.

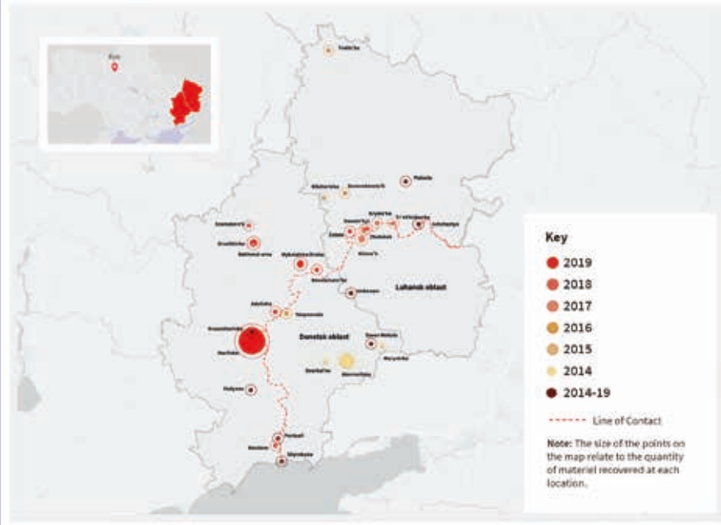
Each piece of arms or ammunition is recorded by photographs, physical measurements, documenting the serial numbers, identifying the source manufacturer and the location georeferenced. One of the reasons for this detailed work is to monitor the effect of sanctions, including arms embargoes. Another is to detect gaps in national controls for the transfer of sensitive goods, or to highlight 'red flags' that may help prevent future items from being diverted. By recording this information, CAR can then provide supporting evidence to partners in the EU, national governments and security forces about whole or parts of manufactured parts being used that does not align with their national/international interests or identifies points of diversion and proliferation.

The core of CAR's work to support its field investigations is focused on our ability to manage, analyse and work with the data that our teams collect on the ground in conflict zones. We use a hybrid of different software including ESRI products and other software such as Fulcrum to make the process as fast as possible. We maintain at CAR the largest global dataset on armaments and ammunition, which gives us a distinctive advantage when it comes to training models for image recognition of arms, for example. We have listed since 2011 over 600 companies and their suppliers, making it easier to identify stockpiling of weapons used in different conflicts. Whereas other organisations may rely on much weaker, unreliable and unverifiable data sourced from the internet, we focus on verified primary sources. We also maintain the reports, digital outputs and the EU-funded iTrace ® dashboard on our data, highlighting current topics of interest such as the Weapons of War in Ukraine.[2]

Map 1

Recovery locations of weapons and ammunition

Documented by CAR in Ukraine, 2018–20



Map 2

Recovery points of weapons featuring a name taped onto them

Q4. How would you like your role to develop?

Njeri: I would like to further enhance or develop my role to be focused on innovation in today's trending technologies. To proactively develop tools that leverage today's technologies to create efficient processes and effective interesting information products.
I would like to develop better visualisations for the points of interest and global supply chain. Interactive cartographic flow maps with animation capabilities can help better understand directionality in the map. At the moment we use very simple points and lines to denote trade flows for example, however with advances in interactive flow mapping, I am certain more intuitive cartographic visualisations can be created.

It would be great to experiment more with Artificial Intelligence (AI) and Machine Learning (ML) in analysing information such as marks or symbols from images. A great deal of time is spent on manual data entry, which then goes through a quality assurance (QA)/quality control (QC) process. Being able to speed up the manual data entry or taking parts of it out of the equation altogether would mean that our resources could be spent on other analytical and insightful tasks.

Q5. What does the future of GIS look like in your sector?

Njeri: AI and other computer vision models which can help identify marks and types of weapons or ammunition headstamps would significantly improve the identification processes. GIS is not heavily used in my industry however advances in global supply chain mapping would be a key milestone for our visual outputs. We have a Research and Development unit within CAR where we experiment with new technologies. Advances in tracking and tracing or smart technology could further enhance the details of our investigation and lead to mapping our routes taken over directionality.

There are also new innovations in using graph databases to understand key entities and their relationships. Being able to access funding cells and match this with different custodians and secondary information could provide a high value add in searching for relational information under investigation techniques and this would enable CAR to generate better geospatial vector and global supply chain maps, which could be depicted as branched flow maps.

Q6. And finally, how did you set up Women in GIS (Kenya)?

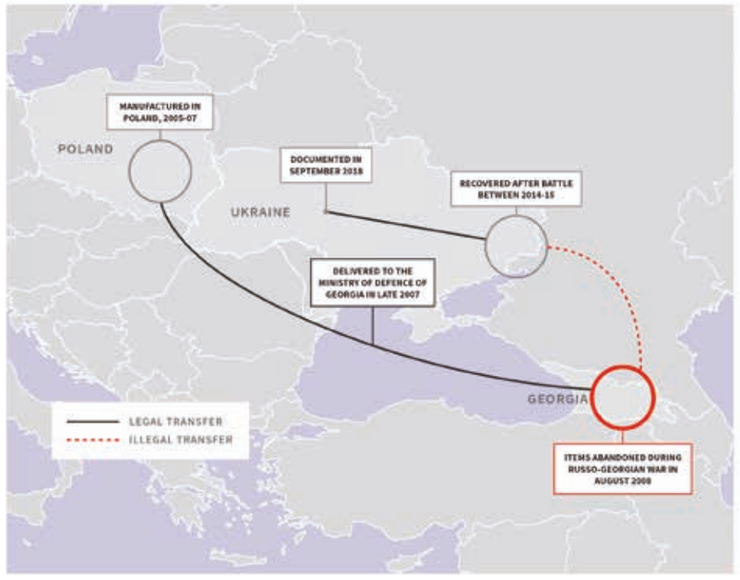
Njeri: We were four women who co-founded the organisation on the basis of providing networking opportunities for young women and professionals in GIS in Kenya. This is done through networking events, fireside chats and mentorship programmes. We then realised the need to bridge the divide between academia and industry and expanded to supporting graduates in university and young professionals in the industry by partnering with GIS companies to provide knowledge transfer sessions or a series of trainings focusing on the technology used in the industry. We have previously tackled work commissioned for the Department for Ministry of Health Kenya using GIS for a COVID response programme and the State Department for Gender and Affirmative Action for support on digitising their work on sexual gender-based violence. Now, we work with volunteers at events to stimulate passion for the industry, supporting men and women, as young professionals working on women-related issues, working against systemic bias against women.

Caroline Robinson

[1] https://www.conflictarm.com/

[2] https://itrace.maps.arcgis.com/apps/dashboards/ff8d007dcfe04edc9170848ea17f1716

Map 3
GROM E2 MANPADS supply chain



IMIA Mapping Leaders Forum, Denver, Colorado, 7–8 June 2023

The BCS has enjoyed a closer relationship with the International Map Industry Association (IMIA) after the two organisations signed a memorandum of understanding in 2021. The IMIA (formerly the IMTA) organises a variety of networking opportunities, such as its annual Mapping Leaders Forum, to bring together leaders from across the spectrum of mapping and location-oriented businesses to connect, share and learn from one another.

This year's Mapping Leaders Forum, entitled 'Connecting the Business of Maps Worldwide', took place in the Wright Room, a historic building located on the 16th Street Mall in the middle of downtown Denver, Colorado. Over two days in June, the event involved a 'Partner Day' of panel discussions followed by a day of presentations, keynotes and networking opportunities.

The Partner Day provided some insights into what some leading IMIA members look for when establishing new relationships, how they work with others, and how to create lasting successful business relationships. The panel also discussed new opportunities for engagement and how partnership relationships are evolving within the map industry. Fortunately, after all this hard work it was time to put the theory into practice during an evening cocktail party at a nearby hotel – the panoramic views over the city providing a superb backdrop for our conversations and networking.

The next day was full of informative presentations on developments in governmental mapping and cyber security, as well as incorporating two keynotes, 'Diversifying the Face of GIS' by Raynah Kamau (Esri) and 'GeoEthics in Mapping' by Aileen Buckley (Esri) and myself. These provided updates on how the face and heart of the mapping industry are changing for the better, embracing new skills, technologies and principles. A key call to action was for case studies on ethics to be supplied to the IMIA to compile a compendium that will be useful for identifying and standardising ethical principles in the mapping industry.

The keynotes were followed by a timely summary of the use of GeoAI in mapping by Mark Cygan (Esri) that highlighted some of its advantages and issues. Indeed, a continual theme running through both days was the use of AI in the mapping industry, which is finding an increasing diversity of applications in cartography, such as the translation of place names and digitisation of building footprints from aerial imagery. A novel touch by the conference organisers was their use of ChatGPT to configure the 'rapid networking' session, in which delegates met someone new every few minutes. Clearly, there is some way to go before ethical principles are established and fully integrated into GeoAI, but we are at the start of an exciting journey.

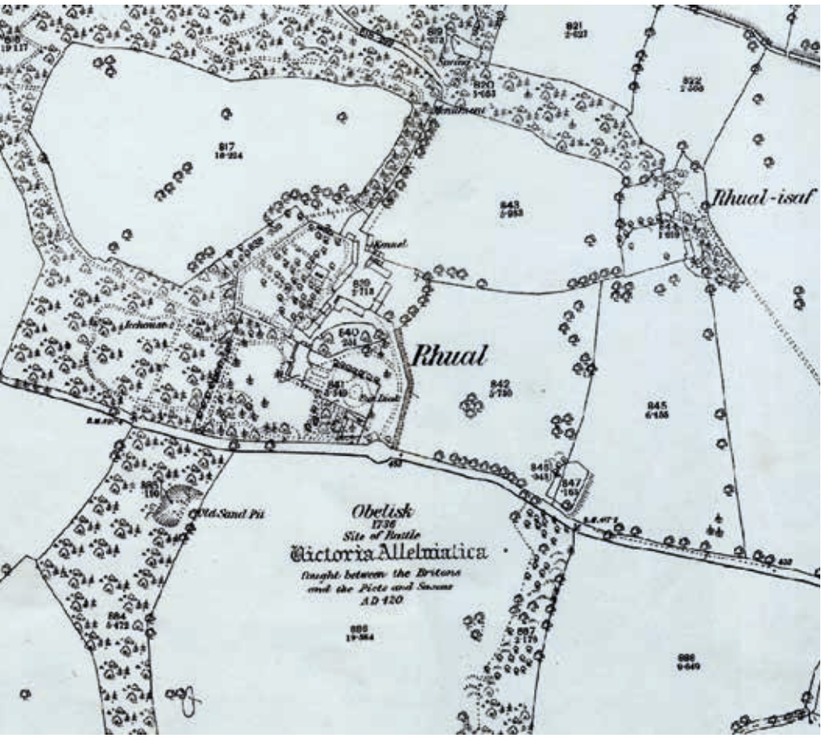
Another key topic covered by the Forum was how mapping products can be enhanced to offer more value than, for example, web map servers. Useful examples from HarperCollins included the development of a new series of London guidebooks that utilised A–Z mapping to provide more depth through local knowledge, and their series of pocket maps of curated walks chosen by National Park rangers who can best advise on where to go and what to see.

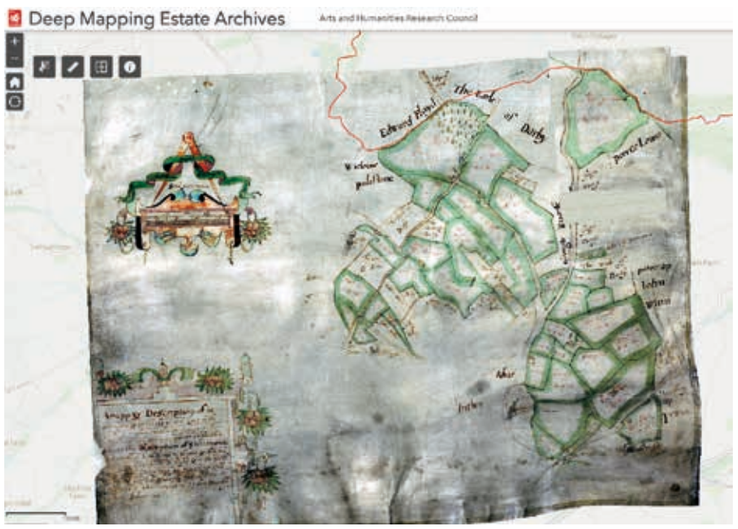
There were also excellent opportunities to gain insights into market trends in the mapping industry and how businesses are responding to changing demands. National Geographic, for example, reported that the two years from June 2020 to July 2022 saw the biggest spike in demand for their domestic trail and travel products. This included sales to aspirational walkers who were buying maps on the premise that 'One day, I'll walk it', rather than their meeting an immediate need for a trail map.

The Mapping Leaders Forum drew most of its participants from North America, but it was good to see a strong contingent from the UK, which included representatives from Dennis Maps, HarperCollins and Stanfords, as well as from some other European countries. As per last year, the event provided a superb platform for discussing new opportunities and challenges, as well as exploring how we can advance ethical principles in the mapping industry. It was good to join fellow delegates from the UK in contributing to these activities and by making excellent new connections.

Dr Alex Kent
Chair of UKCC and UK National Delegate
alexander.kent@cartography.org

DEEP MAPPING





The UK is blessed with a wealth of historical map sources. These collections contain vital information on how our landscapes have evolved. Many projects have sought to digitise these sources to make them publicly accessible through the use of georeferencing, but what if we could go a step further? What if we could not only georeference these maps but also create digital vector-based data that allows for in-depth analysis and interrogation, creating something akin to the Ordnance Survey MasterMap Topography Layer, but for the landscape of 1870.

From 2020 to late 2022, our project, 'Deep Mapping Estate Archives: A new digital methodology for the history of people and place, c.1500–1930', secured funding from the Arts and Humanities Research Council (AHRC) to explore this idea. The pilot project was a collaboration between the Institute for the Study of Welsh Estates (ISWE) at Bangor University, the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW), Aberystwyth University, North East Wales Archives Service (NEWA) and the National Library of Wales (NLW). The project focused on a small area of Northeast Wales consisting of three parishes in Denbighshire: Llanarmon yn iâl, Llanferres and Llandegla and three in Flintshire; Treuddyn, Nercwys and Mold, (west of the river Alyn) – an area of 125 km².

The project sought to devise a methodology by which various historical cartographic sources could be georeferenced, vectorised and attributed to reflect the information contained within the map as well as accompanying books of reference or apportionment documents. A publicly accessible web map interface provides an environment for the in-depth analysis of landscape continuity and identifying the changes between the various sources. The main cartographic sources used were:

1869–1874 Ordnance Survey County Series Mapping (25.344 inches to 1 statue mile or 1:2,500)

1871 Ordnance Survey Town Plan of Mold (126.72 inches to 1 statue mile or 1:500)

1837–1848 Tithe Survey Mapping (Various scales)

1800–1830 Enclosure Mapping (Various scales)

1620–1858 Estate Mapping (Various scales)

To achieve this, a methodology we termed 'total digitisation' was created. This consisted of six main steps: Sourcing, Digitisation, Georeferencing, Vectorisation, Attribution and Distribution. The basic tenet of the method was to record all the features and information depicted within each map source, including the marginalia.

The most innovative part of this process was the georeferencing and vectorisation of each map source. All the maps were georeferenced using as many points as possible per sheet. Depending on the complexity of the area surveyed, this ranged from 100 for open upland areas to over a 1,000 for urban areas. Each control point was 'snapped' to the modern OS MasterMap Topographic Layer to provide as much spatial accuracy as possible. Then the map was transformed using the 'spline' algorithm, which subtly warped the map, often imperceptibly, to match the modern georeferencing points.

The vector data created a polygon for every feature depicted on the map, such as buildings, field parcels and antiquities. These polygons were not individually drawn by hand from the map but generated by using the polygons created by modern OS MasterMap Topographic Layer that had been georeferenced too. Where features existed on both the modern map and the historical map (e.g. churches), the same polygon was used. However, for features that were not depicted on the historical map but exist today (e.g. modern housing estates), these polygons were merged and altered to reflect the historical map. Finally, where features were depicted within the historical map, but were no longer on the modern (e.g. field boundaries), these were created by splitting the polygons.

This form of creating polygonal vector data from historical sources ensures a spatial accuracy that is not possible from georeferencing the four corners of a map, or working with older maps that were not surveyed with high accuracy. Using modern datasets, a standard of spatial accuracy can be transposed to older sources, making them much more reliable. Secondly, once the vector data has been created, it is possible to calculate areas, such as the acreages of each parcel which can then be used as a check that the polygon accurately reflects the source. Area measurements are also useful for trying to identify land parcels noted in earlier documentary sources that often give an area but no name.

The results of this work are available via web maps and layers on the ArcGIS Online system which enables the user to view the historical map sources and their associated data in great detail. By basing this system on the OS MasterMap Topography Layer, it ensures an interoperability with modern systems improving awareness and understanding of the richness of our historical sources which have often been complex to access. The project highlights the gaps in our knowledge which will encourage further research and perhaps most importantly of all provide a system into which that research can be accessed.

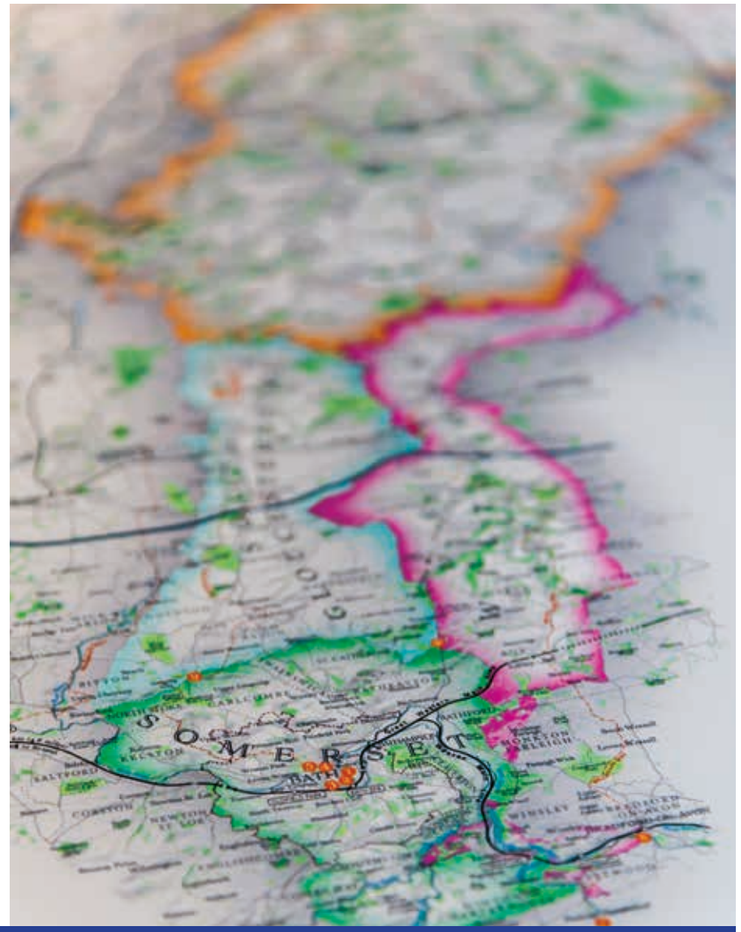
For more information and to use the web mapping visit the link below, or Google search 'Deep mapping estate archives'.

https://deep-mapping-estate-archives-rcahmw.hub.arcgis.com/

Jon Dollery, Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW)

Cartographic Arts: a journey of discovery

Daniel Robinson



The global pandemic and lockdowns over the last four years have been a testing period for many people. I started a new business, The Cartographic Arts, in late 2019, designing and selling my own decorative maps. It began with a map of the Cotswolds Area of Outstanding Natural Beauty where I live, prompted by what I believed was lacking in the marketplace – a very detailed, desirable and beautiful decorative map of the region. I also had some novel design ideas for the map that I thought would work very well so set out to realise my vision, a journey that I hope to continue enjoying for many years to come.

My parents moved to Stroud in the Cotswolds in 1988 when I was just seven, I grew up there, and after a gap, returned in my early 30s. My parents were geologists and I followed in their footsteps with a love of the outdoors and the natural world. The Cotswolds has a strong connection with geology. The 'Father of Geology', William Smith, produced some of the first geological maps from his base in Stow-on-the-Wold; you will find a plaque in the square.

Cartography is a 'big thing' in geology. With a degree in geology from Birmingham University in 2003 and a Masters from Imperial a year later, I got to see, study and make a lot of maps. After graduating I worked around the world. In 2011 I returned to the Cotswolds and established an electric bike shop. By 2017 I was looking for a new venture, so I began a related business called the Cotswold Discovery Trail, inspired by my electric bike rental operations, for which I had produced a number of treasure trail routes to explore the landscape by bike. This itself came from wonderful childhood memories of following, by car, the clues to treasure trails with family and friends.

To bring the Discovery Trail to life, I criss-crossed the Cotswolds devising questions and sampling the beer in many a country pub. I also needed to develop a trail map with the routes and all the content on it for customers to use. While the Discovery Trail was being produced and brought to market, I decided I would like a gorgeous map of the Cotswolds to hang on my wall. Having searched online it became apparent that there was nothing I wanted to buy. This was a huge surprise as it is a celebrated area, loved by those who live here and popular with tourists from all over the world.

What was available seemed to be at two extremes. Lots of small, illustration-type images leaning on pictorial representations of famous and historic landmarks, with limited detail and little emphasis on good cartography. There were old county maps which had qualities I was looking for but by their very nature these were out of date and lacked a contemporary design appeal. So, with some fledgling skills in graphic design, principally with Photoshop, I considered making my own map armed with a clear vision of what I would like. I wanted to design a map sympathetic to antique cartographic styles with a contemporary twist and based on up-to-date cartography. A key concern was to reflect the different counties that make up the Cotswolds; parts of Gloucestershire, Somerset, Wiltshire, Worcestershire, Warwickshire and Oxfordshire. This I realised would be a way to include interesting information about the composition of the Cotswolds while being able to add colour and elegance, with each county that makes up the Cotswolds given its own colour like a county map divided into its districts.

The journey from this initial idea to final map involved about three months of solid work. I was advised to use Adobe Illustrator which took some getting to know as well. Once I had something I thought was ready I began to show people and the feedback and interest was overwhelming. It was not long before I was convinced I wanted to develop a portfolio of maps and grow a business. Before the end of 2019 I joined others showcasing work in a pop-up shop in Stroud, where I sold my first maps. I then attended Cheltenham Christmas market in December with maps of the Cotswolds, Gloucestershire and Oxfordshire complete. Into 2020 I started working on a map of Cornwall, built my own website and was seeking out new avenues to market for my work. The Cartographic Arts was born. The beginning of 2020 saw the country locked down and I used this as a time to make more maps and develop a viable business. I've not looked back and not stopped making maps since. People keep telling me they love a good map, I like to think I've made some …

Contact: thecartographicarts@gmail.com

BCS 60TH ANNIVERSARY CONFERENCE – HAVE YOU BOOKED YOUR SPACE?

20–21 September
British Antarctic Survey, Cambridge

Map Curators' Group: £60 members/£80 non members
GeoViz/BAS hackday: £20
Main Conference: £60 members/£80 non members
60th Anniversary dinner: £60
Visit www.cartography.org.uk/annual-conference
Booking is via Eventbrite. Members have received their discount code via email.

Spaces are being filled for September's annual conference. And there's still time for you to book your spot.

This year we are celebrating 60 years of the Society, with two days of fascinating presentations covering a huge range of topics and issues.

Here's an overview of what's happening at the event:

Wednesday 20 September
Map Curators' Group: exploration

Ieuan Hopkins, Archives, Records and Information Compliance Manager, British Antarctic Survey
The British Antarctic Survey archives

Katie Parker, Cartographic Collections Manager, Royal Geographical Society (with IBG)
Indigenous maps and mapping in the collections of the Royal Geographical Society

Emma McDonald, Librarian, Alpine Club
Peak Maps – the Alpine Club collection and its users

Rose Mitchell, FRGS, Map Archivist, The National Archives of the United Kingdom
Exploring maps at The National Archives

Joost Depuydt/Zanna Van Loon, Curator Typographical Technical Collections Plantin-Moretus Museum
Cartographic highlights at the Plantin-Moretus Museum in Antwerp

Valeria Vitale, University of Sheffield
Searching maps by words: automatic and manual annotations to enhance digitised map collections

Katie McDonough, Senior Research Fellow, Alan Turing Institute
How to ask maps questions

Martin Davis, Digital Map Curator, Bodleian Library
Revisiting Parsons: a war-time map classification in the digital age

GeoViz/BAS Hackday

Spend a day with fellow geovisualisation enthusiasts, whatever level of expertise you are, and use data to solve a challenge. Share tips, tricks and knowledge of different software platforms and data and learn some new skills from others.

Thursday 21 September
Main Conference

David Heyman, Managing Director, Axis Maps
imagineRio project

Seb Jones, Geospatial Analyst, Knight Frank
A moving tale of the built environment

Dr Elizabeth Baigent, University Reader in the History of Geography, University of Oxford
Uncovering the hidden histories of women and maps: your chance to share your stories

Al Haken, London Search and Rescue
The challenges of search and rescue operations in urban and lowland areas

Philip Dellar, SwissRe
Geospatial data analysis and visualisation, is global or local data 'best in class'?

Danny Dorling
The cartography of the cost-of-living crisis and other worries

Andrew Fleming, BAS
A history of mapping in the Antarctic – from a predicted continent to the modern rise of robot mappers

Richard Martin, RNLI
RNLI: the use of geospatial data in supporting lifesaving activity

Peter Lloyd
Why isn't the New York City subway map a diagram?

Ken Field, Esri
Mind the Map!

William Cartwright
An Antipodean Journey in Cartography – one that paralleled the British Cartographic Society's 60 years

Wednesday 20 September
60th Anniversary Dinner

An opportunity to catch up with old friends and meet some new ones, our special anniversary dinner will be held in the historic Christ's College's dining hall.

A tasty menu has been prepared:

Starter options
Game pâté and melba toast
Chargrilled Mediterranean vegetables with basil dressing (vegetarian, vegan, DF, GF)

Mains options
Fillet of beef stroganoff and saffron rice (GF)
Butternut squash, spinach and wild mushrooms Napoleon ravioli (vegetarian, DF)
Lentil and vegetable cottage pie (vegan, DF, GF)

Selection of seasonal vegetables

Desserts options
Tiramisu
Summer berry sundae (vegan, DF, GF)

Half a bottle of wine per person

Guest speaker

Prior to the dinner, our speaker Alex Hibbert, will give us a fascinating insight into his adventures as a polar traveller and explorer.

In 2008, with his teammate George Bullard, Alex crossed a new ice sheet route, and back, completing the 1,374-mile trip in 113 days. They received no resupplies or physical support, spending the last week with hardly any food.

Alex is also one of three British polar explorers who embarked on a six-month expedition to collect vital scientific data from the Arctic Ocean and trek to the North Pole, in the darkness of winter – the Dark Ice Project.

Awards event

All entries to our annual awards will be displayed at BAS. At this evening's event, the winners will be announced in all categories.

MEANDERINGS … AN HISTORICAL MAP OF OXFORD

It's hard *not* to appreciate history when you work in the heart of a city like Oxford. Working at the Bodleian Libraries (University of Oxford) we're close to the oldest purpose-built museum, the first concert hall in Europe, a theatre designed by Sir Christopher Wren, and many other equally important and beautiful sites. So, how to get more out of these surroundings? The challenge for three of the Map Department's staff was to use the latest edition of the Historic Towns Trust map of the city to see if we could find any medieval traces among the University buildings that make up most of the centre of the city today. The map is primarily intended for the study of urban history from an armchair, so perhaps field testing it on the streets of Oxford was a little unfair. But the map did prove useful and provided interesting information about historic sites once we had located them.

Firstly, we set off to locate surviving sections of Oxford's city wall, whose stone construction apparently pre-dates the Norman Conquest. Our closest section hides behind one of Oxford's most famous pubs, the Turf Tavern. To reach the Turf you go down a small lane behind the Bridge of Sighs. Jane Burden (later Jane Morris; wife to William Morris and muse, and more, to Dante Gabriel Rossetti) grew up in a house here. The wall is very tall in the pub garden and behind it is the Bell Tower of New College, our next destination.

While not much of the city wall remains, the map shows that the wall originally ran along Broad Street and then east along Holywell Street, behind the Turf Tavern and then into New College gardens. The map helped us locate all of these, and enabled us to identify a curved section inside New College as a defensive feature that has now been turned into a sheltered area for seating. Stepping through the College gates, you do seem to enter another world. The hustle and bustle of the busy city seem far away, and the beauty and size of the grounds are striking.

The map was particularly useful in helping us locate sections of the wall that are not obvious; leading us to the backyard of an Italian café in Broad Street, which faces houses built into the city wall at a later date. The notes on the verso of the map explain that the city wall was built for prestige as much as defence, and had fallen into disuse by the 15th century. Places like this, where other buildings were later constructed using parts of the wall, meant that those sections were preserved. The palimpsestic mix of stonework from across the centuries bears witness to the richness of the city's history, encapsulated by the map.

Next, we headed to Beaumont Street, named for Beaumont Palace; birthplace of two English kings (Richard I and King John) and site of a long-vanished Carmelite Friary. A plaque records the area's previous use, and the map again provides more background information. The map shows how wide the road used to be at the junction of Beaumont Street where it faces Worcester College, with walls spreading out on either side, now built over. With the aid of the map we located the remains of one of these in the yard behind a Chinese restaurant.

This is really the most amazing thing about the map; you can wander around Oxford (perhaps armed with a modern map as well, if you don't know your way around), find the remains or site of a historic feature, and then look at the notes to learn its history and significance. You could use it to check out the more famous historic buildings (such as the Bodleian Library, Radcliffe Camera, Sheldonian Theatre and Oxford Castle) and then turn it over to find out more.

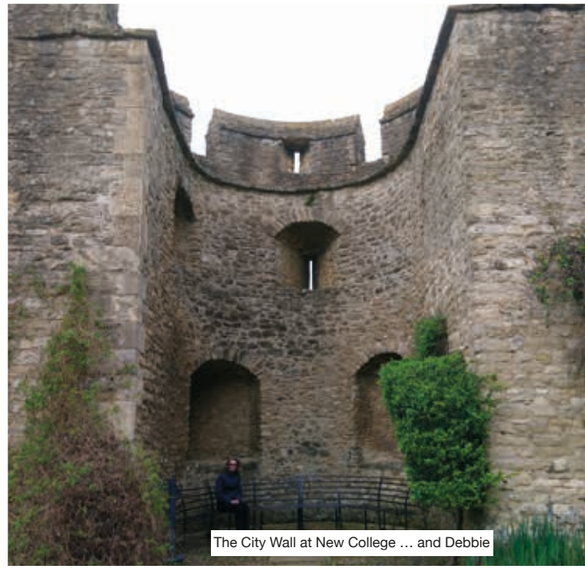
Our route ended back at the Weston Library, just in time to avoid the rain. Oxford is a historic and beautiful city and a map like this can help both visitors and locals appreciate both of these characteristics. What better way to spend an afternoon?

Stuart Ackland, Debbie Hall and Martin Davis
Map Room, Bodleian Libraries

More information about maps available from the Historic Towns Trust can be found at www.historictownstrust.uk

An historical map of Oxford from Medieval to Victorian city. Second edition. Oxford: Historic Towns Trust, 2021. ISBN 978-0-9934698-93

Turf Tavern courtyard sits in the shadow of both the wall and bell tower



The City Wall at New College … and Debbie

Putting the map through its paces …

The Association for Geographic Information (AGI) – our new partners introduce themselves

The Association for Geographic Information (AGI), the UK membership organisations for companies and individuals working in the geospatial sector, recently signed a new Memorandum of Understanding with the British Cartographic Society. Under the agreement the two parties will raise awareness and promote membership of each other's organisations and encourage attendance at, and participation in, virtual and in-person events.

Cartography, while only accepted as a science in the last 100 or so years, has a pedigree, of many thousands of years, of map making, globe production and map projections. Maps and map-related visualisations, and the craft and science of creating them, are the way we present locations and events as they appear or occur at specific points in time. This is fundamental to communication of geography, geodesy and more recently photogrammetry and remote sensing data. After all, we can collect data ad infinitum, and, using concepts and technologies such as machine learning and artificial intelligence, we are only beginning to understand the potential we have to derive intelligence from it. But, if we don't have the skills to communicate these results, then the value of these technologies is significantly lowered. Which is why, we at the AGI see the relationship with BCS as such an important one.

So, what does that mean for you, members of BCS?

In real terms what this partnership means is a closer working relationship. This is initially presenting itself as an opening of doors … BCS kindly extended an offer to all members of AGI covering attendance at your 60th Anniversary Conference and in turn, we would like to offer members of BCS the opportunity to attend our annual GeoCom event at our discounted members' rate. Details of this will be available when tickets go on sale in September.

But let's take this friendship further. After all, grown-up relationships aren't just about showing up at parties.

We truly believe the AGI has something to offer everyone with an interest, personal or professional, in cartography. As the UK's geospatial membership organisation we lead, connect and develop a community of members who use and benefit from GI. We are independent and impartial, and we work with members and the wider community, including partners like BCS, to successfully influence government policy, deliver the highest quality of education and provide a lead for best practice across the industry.

Our mission is to foster, create and support a thriving geospatial community, embracing all aspects of the art, science and active use of GI, actively supporting a sustainable future and we aim to achieve this through the three pillars that govern our activities and intentions, namely:

- to nurture and connect active GI communities;
- support career and skills development for GI professionals; and
- provide thought leadership to inspire future generations.

The AGI is run as a limited company with a Council formed from elected members of the AGI. The Council's main role is to set the strategic direction for the organisation to enable us to achieve our mission and adhere to our pillars and to do this, Council members use their own knowledge and experience, as well as consulting with the wider membership, industry and partner network.

AGI Council members also take on specific roles and activities throughout the year including the running of regional groups; AGI Cymru, AGI Northern Ireland and AGI Scotland, and special interest groups; Early Careers Network, Skills and Education and GEMINI. Each of these groups has a stated mission and objectives, and works with members within the geographical area or scope of operation to deliver a programme of events, education and outreach activities throughout the year. For example, recent activity has included the annual conferences in Scotland and Northern Ireland, AGI Cymru will be hosting its event, under the theme 'Climate Change in Wales', on the 10 October in Cardiff, and the Early Careers Network and Education and Skills groups have been working on projects to assess what early careers professionals value from employers and identify skills shortages, respectively.

I have already mentioned our flagship event GeoCom and the organising group are working hard to put together another groundbreaking event under the theme 'Intelligent Geospatial for a Sustainable Future'. Last year's event attracted more than 260 registered delegates with first-class speakers from government and commerce and was even described by one attendee as a 'Netflix binge for geo-nerds'. Building on this success, GeoCom 23 will take place on the 5 December at the Royal Geographical Society headquarters in London and further announcements including early bird booking discounts, sponsorship opportunities and agenda content will be forthcoming.

But, and here I repeat myself, it's not just about showing up at parties. The AGI Council works throughout the year to develop and maintain relationships like the one we are fostering with BCS. We have recently signed a new MOU with the Royal Geographical Society with the Institute of British Geographers, we are working closely with the Chartered Institute of Civil Engineering Surveyors (CICES) to deliver a professional competency framework, and we have a close relationship with the Geospatial Commission. In fact, AGI was named as one of the internationally recognised UK organisations in the recently published UK Geospatial Strategy 2030.

I hope that I have given you a flavour of what the AGI is about and what we have to offer and at the very least I'd be delighted to welcome members of BCS to the GeoCom Conference in December using the members' discount. Keep an eye on our website (www.agi.org.uk/geocom) for the latest event announcements. However, if I have tempted you further, and you are thinking about joining the AGI, then please visit www.agi.org.uk/membership-levels/ or call + 44 (0)1489 668 340 and speak to one of our member support team.

Advances in 3D

Point Cloud Data in QGIS

There is a new 'Betamax vs VHS' technology battle being fought at the moment between Digital Twins (Virtual Reality or VR) and In Real Life (Augmented Reality or AR). Now that Apple has released a concept version of Vision Pro,[1] a headset that enables you to view the world and your digital assets over the top, it looks like AR is winning. The era of spatial computing, using visionOS, to situate desktop/mobile applications in the physical space, such as your living room, is an almost tangible outcome due later in 2024. This delay gives software companies some time to get to grips with designing for visionOS, Apple's first spatial operating system.

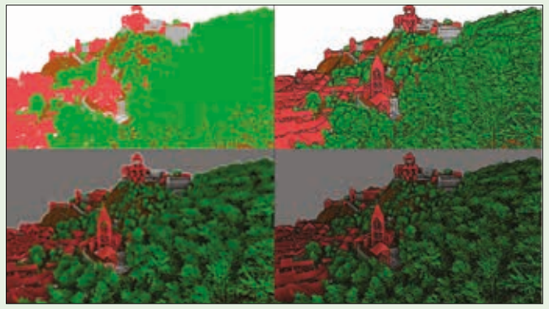
Meanwhile, the fight for VR is continuing, with the EU working towards developing a digital twin: Destination Earth (DestinE),[2] a highly accurate digital model of the Earth on a global scale. This model Earth will monitor, simulate and predict the interaction between natural phenomena and human activities. This is a huge undertaking in not just the mathematical models required to create the underlying world and its weather, but also to test it against real-life data. A climate change focused version of *The Matrix*.

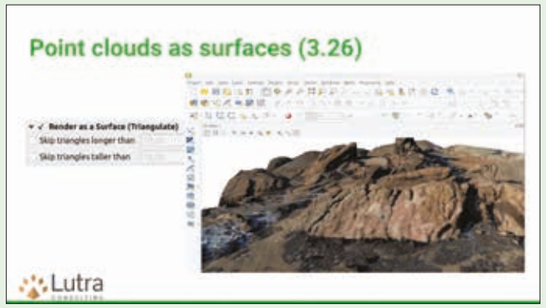
It is against this backdrop, I look at the advances in 3D computing for us mere mortals. What can we do to go from topographic mapping to enhanced 3D models? I was at the QGIS User Conference,[3] in 's-Hertogenbosch on 18 and 19 April 2023, and found Stefanos Natsis from Lutra Consulting's[4] presentation insightful. There are a number of challenges to making data collection easier that Lutra have been working on, resulting in the Mergin Maps App,[5] which synchronises online data with that which has just been collected. A 'one map' scenario. The other aspect has been to make point cloud data more useable than just a spinny, 3D diagram.

Lutra has been working with North Road and Hobu to develop better processing capability and functionality over the past few years, crowdfunding all the way. So what new tools do we have to play with? Firstly, loading point cloud data into QGIS[6] is not regulated to a separate tool window. QGIS now has a Mesh and point cloud data layers. Secondly, this enables you to do cool stuff with the points such as matching various classifications. You can now use the classifications panel to change from RGB, to symbology according to classification type, to attribute by ramp colourways. For example, to show differences in elevation.

Importing and panning point cloud data has been made easier for your computer to handle. There are several 'cheat-code' views to convert point cloud data into surfaces: try Eye-dome lighting and Ambient occlusion, which both give the appearance of smoother surfaces, greatly enhancing your depth perception.

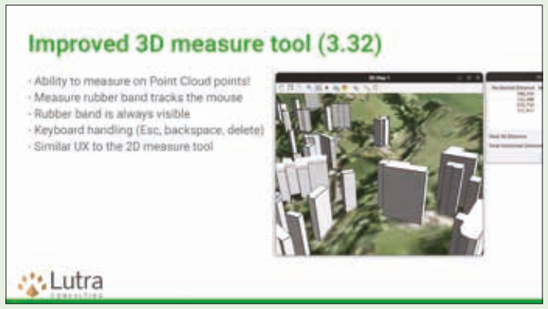
Or you can go all the way and use point clouds as surfaces, to render as a surface through triangulation, altering the model itself. There are lots of other improvements for better usability such as much-improved camera control; terrain can be disabled; more efficient loading of data; zoom extents taking elevation range into account; Visible 3D axis; and managing and docking view windows.



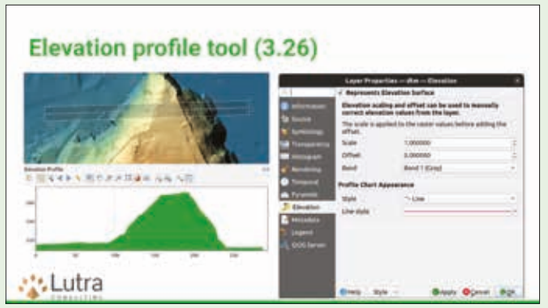


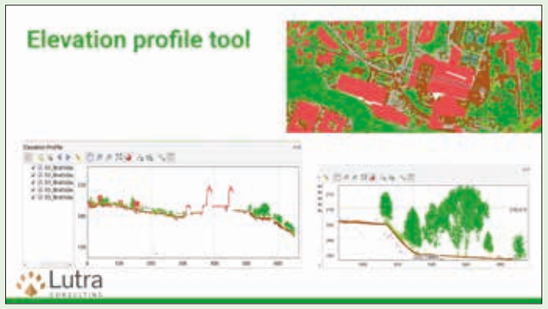
However, my favourite improvements are combining 2D and 3D elements, so that you can genuinely work in both environments in one place, such as the semi-transparent vector objects capability. This means that your environment doesn't get limited from your viewpoint and you can see beyond your elevations to the environment behind.

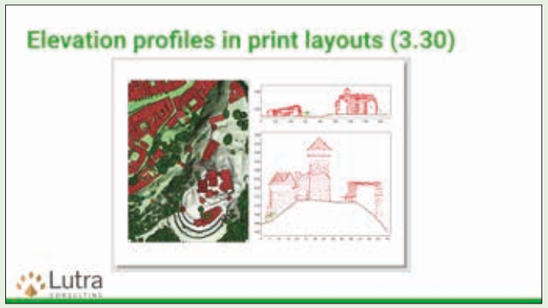
My next favourite tool is an improved 3D measure tool, with the ability to measure between point cloud points. Hurray! This makes such a difference, being able to access measurements in three dimensions using free, open-source software that is QGIS. For that alone I want to give the software engineers a huge round of applause! The user experience is similar to the 2D measure tool.



My last and final favourite capability is using the Elevation profile tool. This makes my little CAD heart sing! Being able to view cut-away sections, so that your maps are not only in topo, or wonky 3D view, but available in nicely sliced diagrams … very cool. This makes working with QGIS much more useful and accessible to everyone. Thank goodness for free and open-source QGIS, which means that creativity is not stifled and everyone can learn to make a great map.







You can support the work of QGIS by donating here: donate.qgis.org/

Caroline Robinson

[1] https://www.apple.com/apple-vision-pro/
[2] https://digital-strategy.ec.europa.eu/en/policies/destination-earth
[3] https://uc2023.qgis.nl/
[4] https://www.lutraconsulting.co.uk/
[5] https://merginmaps.com/
[6] https://docs.qgis.org/3.28/en/docs/user_manual/working_withpoint_clouds/point_clouds.html

SUBVERSIVE MAPS? A CARTOGRAPHIC PERSPECTIVE ON GRAYSON PERRY

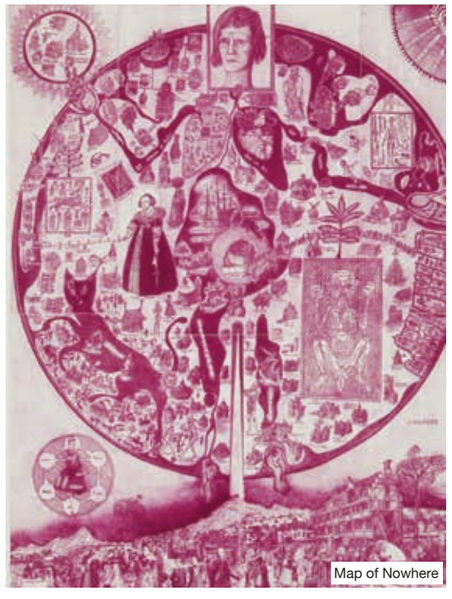
"I love maps. They have an air of authority, they show us where to go." So proclaimed Sir Grayson Perry, winner of the 2003 Turner Prize, in an article published in *The Guardian* in 2020. Maps are a powerful genre for the artist, and Perry has often drawn inspiration from them in shaping his own works.

The Andipa Gallery, a specialist dealer for classic art and contemporary masters that was established in Knightsbridge in 1967, recently asked the BCS for some interpretation of two of Perry's artworks in their collection from a cartographic perspective. Taking up the challenge, my conversation with their Head of Prints, Alex Yellop, about *Print for a Politician* (2005) and *Map of Nowhere* (2008), was a thought-provoking discussion that explored what these works borrow from cartography that makes them particularly effective and meaningful as works of art.

As an etching comprising three panels and measuring 7 feet by 2 feet, *Print for a Politician* has the presence and form of a landscape by Bruegel, the 16th-century Flemish master. Indeed, this is more of a landscape than a map, with its contoured hills and mountains in the background resembling those in the 17th-century landscapes of Wang Hui. Like a topographic map, you are drawn into the detail, and the work follows Perry's *Map of an Englishman* (2004), which presents a similarly complex and visually rich portrayal of life that incorporates a vast array of labels representing different aspects of human experience. Here, however, Perry shows us a calamitous and gloomy world, littered with stricken buildings, smoking ruins, petrified trees and – most importantly – with humanity at its most divided. People are classified and categorised into groups labelled by numerous identities we all construct for ourselves and for others: couch-potatoes, smokers, male chauvinist pigs, parents, townies, Protestants, Communists, Sunnis, Classicists, Christians, transvestites, academics, celebrities, to name just a few. Together, these groups – or tribes – use a wide assortment of weaponry, from cannons and tanks to biplanes and supersonic bombers, to wage war and destroy the natural landscape as well as each other.

In our conversation, Alex and I discussed the concept of categorisation and how it can both aid understanding on maps yet lead to conflict when applied to human identity. Society categorises people into various groups based on their identities, leading to divisions and stereotypes. In *Print for a Politician*, Perry appears to be critiquing this tendency and encouraging viewers to question these labels and the impact they have on human interactions and relationships. Categorising objects is crucial to cartography in lending power and control over those objects, but categorising people for power and control leads to fragmentation, conflict and destruction in society. And the danger of this is what Perry is aiming to communicate to politicians in this work. That a print now hangs in the Department for Digital, Culture, Media and Sport at 100 Parliament Street might ensure that the message will reach some of his intended audience, even if they choose not to heed it.

Although *Map of Nowhere* is much more recognisable as a map, it resembles a medieval mappa mundi rather than a product of modern cartographic technique. A figure, as a self-portrait, stands with open palms encompassing a pictorial depiction of the world that incorporates detailed depictions of buildings, people and places. Their labels describe some of the many feelings, characteristics, emotions and memories that together constitute the human condition. There are also seas and lakes, two of which are labelled 'Meaningless' and 'Despair', that resemble deep voids, while parts of human anatomy – such as the heart and lungs – contain representations of 'catastrophic optimism', 'wishful thinking', 'nationalism' and 'time'. Beyond the top left of the world is a Sun-like object with buildings labelled with insults such as 'Queer Fish', 'Awkward Squad', 'Cuckoo', and 'Square peg in a round hole'. In the opposite corner, a masked head calls out more negative statements, such as 'Welcome to the real world', 'Got above ourselves have we?' and 'Class traitor'. Underneath


Map of Nowhere


Print for a Politician

the world is a landscape adorned by figures in medieval costumes, coffins and timber-framed buildings.

Drawing inspiration from the title of Thomas More's *Utopia* (meaning 'no place' in Greek) of 1516 and the *mappae mundi* of Ebstorf and Hereford, Alex and I discussed how the work offers an introspective view that is both playful and anxious. The significance of the central figure of the artist symbolises the centrality of the self in the human experience and the personal perspective through which the world is perceived. Through the notion of 'nowhere', the work represents doubt and emphasises the uncertainty and complexity of human existence. Perhaps this sense of doubt contrasts with the medieval *mappae mundi* that instead depict a central point of certainty as Jerusalem and their world as encompassed by the body of Jesus Christ.

Maps oscillate between certainty and uncertainty; between representation and non-representation. Perry's playful approach challenges the conventional notion of maps as objective and certain, instead inviting subjective interpretation and introspection. It is clear that *Map of Nowhere* navigates through themes of interconnectedness, subjectivity, and the role of the viewer in interpreting the artwork, provoking personal reflection and contemplation of their experiences and beliefs.

More widely, perhaps Perry takes a satirical and introspective look at cartography itself and the inherent authority and seriousness that maps have traditionally held. In the context of modern technologies, like Google Maps and other web map servers, maps can be ego-centric in terms of location-based navigation but lack the holistic view of space presented through the medieval *mappae mundi*.

In both these works, Perry encourages us to reflect on our own identities and the interconnectedness of human experiences throughout history. He emphasises the impermanence of societal divisions and calls attention to the universal nature of human struggles and aspirations, inviting us to question our own perspectives and preconceptions about the world we inhabit.

Through their capacity to act as an authoritative framework for organising ideas combined with their power to inspire a sense of wonder, Perry conveys serious messages through his pastiche of mapmaking, challenging the notion of pure objectivity in cartography. In this way, perhaps, he turns the tables on us – demonstrating what happens when we, ourselves, become the reluctant subject of the map.

Dr Alex Kent

References

Perry, G. (2020) "Be it on God, guns or Greta, social media offers neat solutions for our messy feelings" *The Guardian* 14th May (Available at: https://www.theguardian.com/artanddesign/2020/sep/14/grayson-perry-american-dream-map-online-culture-war-social-media).

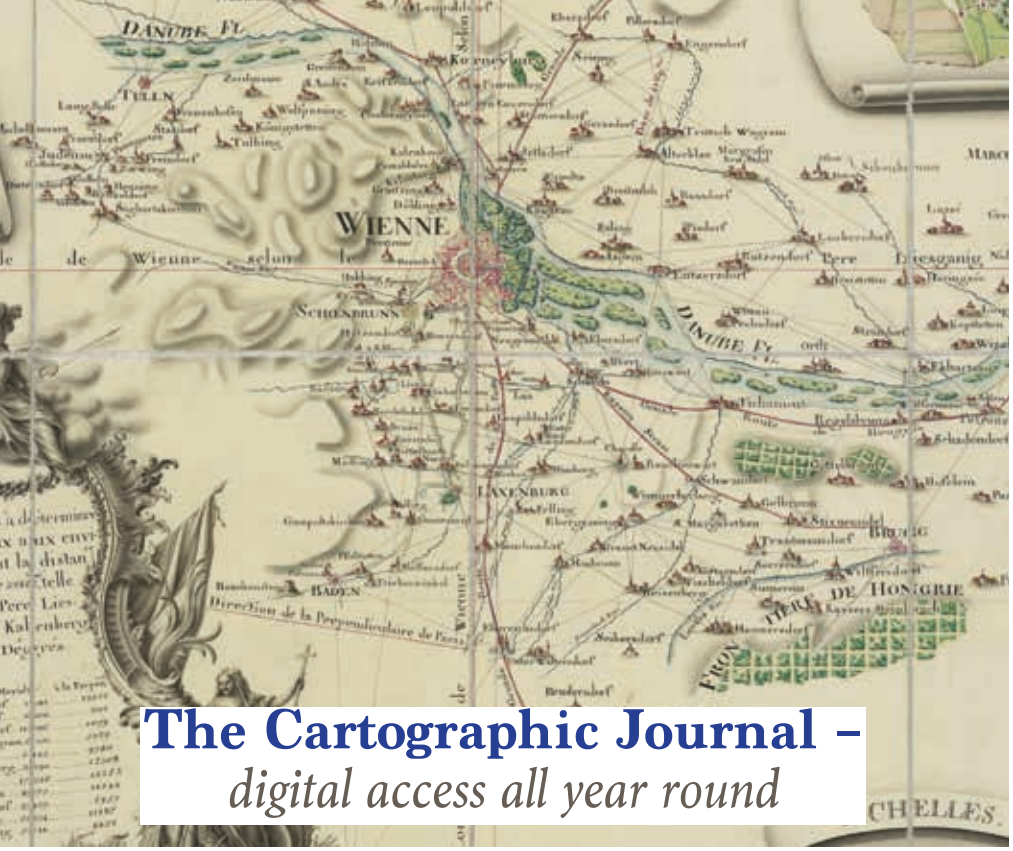
Grayson Perry's prints can be seen at the Andipa Gallery: www.andipaeditions.com/buy-grayson-perry-prints/.

DASTARDLY PUZZLE

Here's a fiendish puzzle, compiled by David Sherren.

Identify each capital city from the images below. Rearrange the initial letters of each capital to find a 12-letter word.

Answers on back cover



A connection between the Vienna and Paris meridians by Liesganig and Cassini III (1761). Focusing on Vienna, the map shows not only the meridian and parallel passing through the city but also the perpendicular to the meridian of Paris, symbolically connecting the Habsburg and Bourbon domains (based on the Habsburg–Bourbon alliance, signed in 1756) (ÖNB, Kartensammlung, C.11.2).

The Cartographic Journal – *digital access all year round*

Most members of BCS have digital access to all articles published in *The Cartographic Journal* (all but Affiliate members), as well as printed copies delivered on publication (all but Affiliate and Student members). Digital access allows you to read articles as soon as they are published, rather than waiting for the printed issue.

Here's an abstract from one of the articles published in T*he Cartographic Journal*:

Building the Great Chain, Expanding the Empire: Triangulation in the Time of Napoleon

By Mirela Altic

This paper analyses the development of a triangulation network in the time of Napoleon I, when, due to imperial expansion, the extension of the existing triangulation network was necessary to extend Cassini's original map of France to the newly conquered territories of the French Empire. For this purpose, triangulators had to connect the already existing regional networks with the basic French network, as well as establish completely new ones in regions where they had not existed until then. Connecting various networks into a single chain was not only aimed at improving the accuracy of maps; it was also a clear reflection of a new understanding of territorial sovereignty. This paper examines which networks were established within modern-day northern Italy and maritime Croatia, and how they were mutually harmonised and interconnected, as well as what kind of repercussions this had on the development of mapping and map standardisation.

You can access the full article at www.tandfonline.com.

How to access digital content as soon as it's published
Sign into your account at www.tandfonline.com using your email address and password.

If you have forgotten your password, please go to the following link and enter your email address and follow the instructions for resetting your password: https://www.tandfonline.com/action/requestResetPassword

To view your subscription, click on ***Your Account*** at the top of the page and then click on ***Account Settings***. Scroll down to the ***Access entitlement*** box on the left hand side of the page and click ***View your access***. Then select the journal title to reach its content.

Dastardly puzzle answers:
The solution (top to bottom, left to right) is:

Prague
Reykjavik
Guatemala
Amman
Taipei
Helsinki
Ottawa
Copenhagen
Rome
Edinburgh
Riga
Ankara

The 12-letter word is CARTOGRAPHER.