MAPLINES

THE MAGAZINE OF THE BRITISH CARTOGRAPHIC SOCIETY

BRITISH CARTOGRAPHIC SOCIETY

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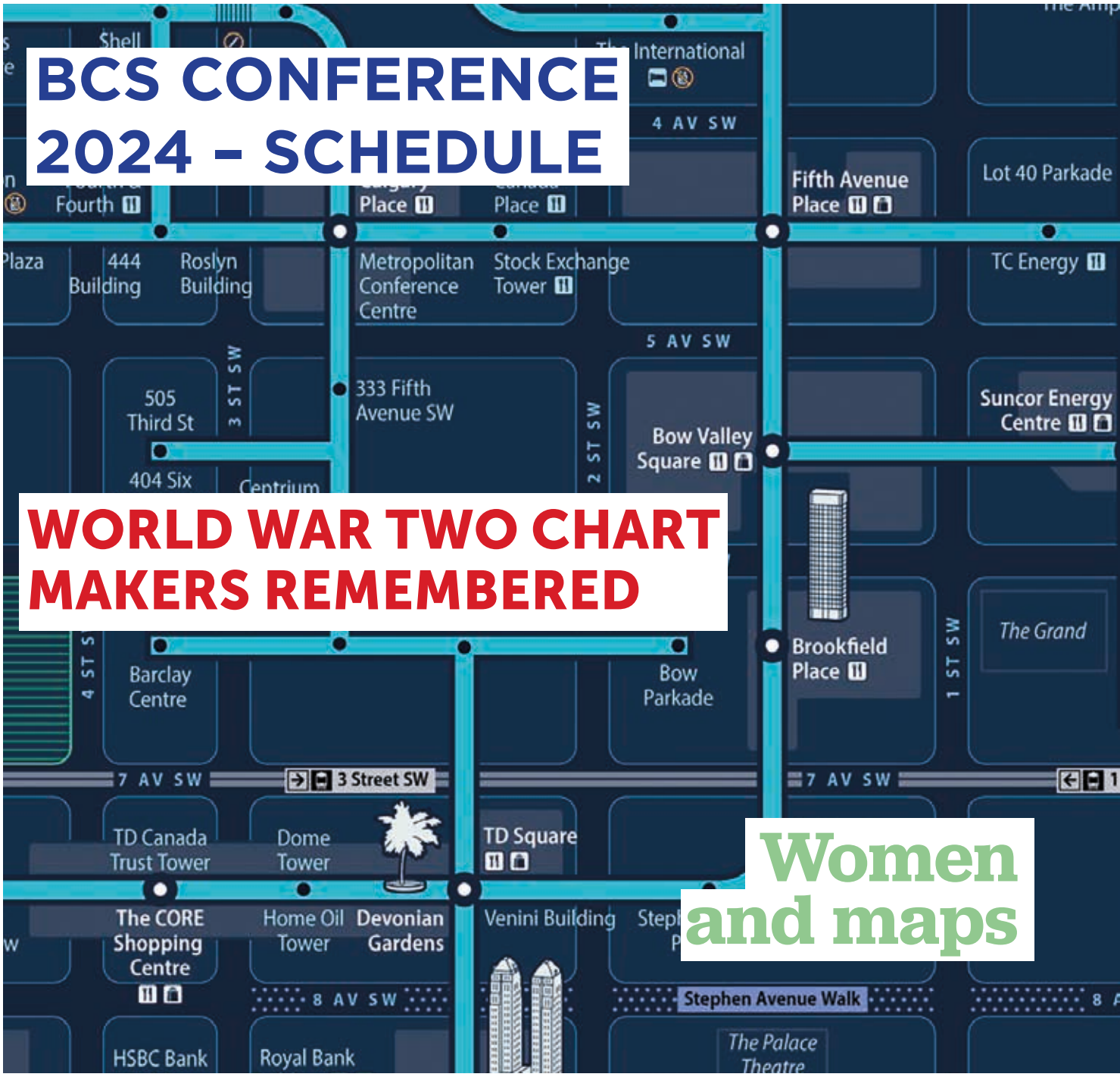

BCS CONFERENCE 2024 – SCHEDULE

WORLD WAR TWO CHART MAKERS REMEMBERED

Women and maps

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BCS EGM/AGM 2024

The BCS held an Extraordinary General Meeting via Zoom on Wednesday 12 June 2024. Ninety-three per cent of the members present agreed to a change to By-Law 6 in our Constitution. This follows a Council proposal that the number of years of relevant experience required for Fellowship membership should be reduced from ten to five years.

The EGM was immediately followed by our AGM, the last to be presided over by Seppe Cassettari. Following the presentation of our Annual Report of the Trustees of the Society, including the presentation of accounts, members approved the election of our new Council, which now looks like this:

OFFICERS
President Paul Naylor
Vice President Christopher Budas
Hon. Secretary David Sherren
Hon. Treasurer Bernard Anderson

COUNCIL MEMBERS
With one year to serve: Henry Holbrook and Elaine Watts
With two years to serve: Stephen Burry, Jim Goldsmith, Alex Kent, John Peaty and Clare Seldon

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 2024 issue: 14 October 2024

CONTACTING US:

For all enquiries, contact BCS Administration, Catherine Colley (admin@cartography.org.uk)

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Front cover image: Calgary's +15 Skywalk map (see pages 20–21).

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FROM THE BCS PRESIDENT

Paul Naylor
paul.naylor@cartography.org.uk

Fifteen years ago, my former manager at Ordnance Survey introduced me to the British Cartographic Society (BCS). From the moment I attended my first conference, I was struck by the unwavering passion of fellow attendees for maps and cartography. These kindred spirits revelled in discussing their favourite maps and the nuances of cartographic design – a topic I could happily explore for hours.

Fast forward five years, and I found myself taking on the role of Programme Chair and becoming a council member. My journey within the BCS has been incredibly rewarding. I've had the privilege of meeting remarkable individuals and continuously learning from this vibrant community. Now, as I step into the role of President, I am deeply honoured and grateful for this opportunity. If I can emulate even half the success of my esteemed predecessors, I know we'll be in good hands.

Allow me to introduce myself – I'm Paul Naylor, a 45-year-old technical relationship consultant. My family includes my wife, Derryle, and our two sons, Ethan (17) and Dylan (13). Oh, and not to forget our spirited ten-month-old puppy, Daisy. Beyond maps, I'm a diehard Southampton FC football fan, enjoy music, walking, running and occasionally playing football (despite my protesting body).

I have long had a love affair with maps, geography and design and in January 1998 I joined Ordnance Survey (OS). Over the past 26 years, I've been fortunate to work on various cartographic products, including the beloved OS 1:25k Explorer map series. Today, I lead the GeoDataViz team, where I fuse my passion for maps with a keen eye for design and data visualisation.

The cartography industry has evolved significantly during my time at OS and the BCS. Maps remain pivotal in our society, but how we visualise geographic data has transformed. As a society, the BCS recognises this shift, and our GeoViz toolkit aims to address these changes. Still, there is much more we can accomplish together.

Recently, Ken Field's tweet caught my attention. At the Outlier 2024 data visualisation conference, he was the sole cartographer among data visualisation experts who claimed to "make maps". This discrepancy presents an opportunity – one that the BCS can help bridge. I am eager to explore how we can foster collaboration and elevate cartography's role.

Before I sign off, I'd like to express my gratitude to several individuals. Our dedicated team, committed to advancing the Society's charitable goals, deserves heartfelt thanks for their unwavering support. I also extend my appreciation to those who paved the way before us, shaping the Society into what it is today. To our cherished members, your ongoing support and warmth mean the world. And finally, a special acknowledgment to our past President for their remarkable contributions over the past three years. Thank you.

I invite all BCS members to engage with me. Whether you have questions, ideas, or thoughts to share, please reach out via email at paul.naylor@cartography.org.uk. Your input matters, and I look forward to hearing from you.

Sincerely,

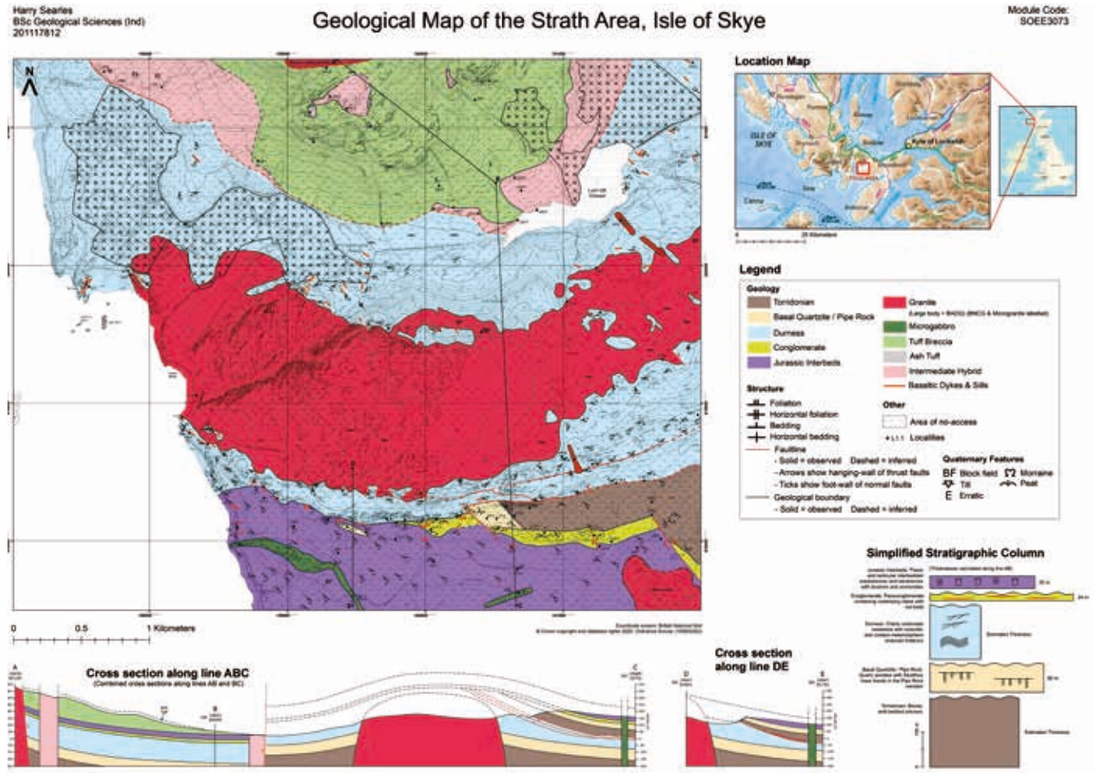
Paul Naylor, President, British Cartographic Society

OUR MEMBERSHIP

This issue, we've asked Harry Searles from Ordnance Survey about his cartographic background

My route to cartography is still an ongoing journey, but it began with studying and producing geological maps as a geology undergraduate at the University of Leeds. This was when the spark ignited, and I distinctly remember perceiving something more profound in the maps beyond their informative purpose. To me, they were an art piece; the vibrant colours, staggering detail, and their ability to pull you into an underground, almost alien world would captivate me. Unusually for a geologist, who may typically look back on discovering beautiful rock formations, I reminisce most about the time spent studying these maps and producing them in the computer lab for hours on end. The feeling of accomplishment I found after printing them in the highest resolution on the finest paper and admiring the final piece has still not faded. Although I should add – I still like rocks.

After graduating, I continued in geological mapping by moving to Dublin for a year to work at the Geological Survey of Ireland. Here, I worked on updating the National Quaternary Map and spent a lovely summer surveying County Wexford – getting my hands dirty taking soil samples, coordinating drilling operations and carrying out geophysical surveys. Following



Ireland, I enrolled in the GIS Masters programme back at Leeds to strengthen my technical ability and steer my career into the geospatial domain. I must have produced 100 maps that year – topographic, thematic, 3D, web maps, infographics, the lot – using the outputs of analytical processes such as geodemographic classifications, digital image processing, hydrological modelling, viewsheds, network analysis and more. For my dissertation, I worked with The Bolton Estate in North Yorkshire to identify areas suitable for planting woodland that minimised the impact on the estate's curlew population – an endangered ground-nesting wader. This involved producing two multi-criteria evaluations – a Habitat Suitability Model and a Land Capability Model – then inputting these into several custom analytical processes that modelled each spatial effect of woodland on curlews – perching, edge-effects, direct displacement and fragmentation – to generate a Curlew Impact index. The final map shows the woodland symbolised by this Index to help the land managers quickly visualise the potential sites and their impact on curlews. I would insert the map in this article, but I cannot share it due to the sensitive information it displays about the estate.

So, the map I will display, which remains my favourite and hangs proudly on the wall in my parent's house, is the Geological Map of the Strath Area, Isle of Skye, that I produced as an undergrad. The map is based on data collected during a six-week field trip to the area, and unlike the fancy tech I would end up using in Ireland, the equipment was rudimentary, consisting of a compass clinometer, an OS map and some pencils. Those weeks were tough, but they were beyond worth it when I look at this map. What I find most interesting is the clear relationship between the geology and the geomorphology and vegetation. Mapping the boundary between rock types was primarily carried out using these features, the most distinct of which are visible from space. Take the large granite (red, centre): on an aerial image, it can be identified by the raised relief (due to resistance to weathering), maroon colour (due to heather growing on its acidic soil), and large dome-like pale pink outcrops. This starkly contrasts the surrounding limestone, which produces a drop in slope (as it weathers readily) and has a bright green hue (as its well-drained soils encourage grasses and bracken). Other interesting features visible are the Kishorn thrust that scars the landscape from west to east and the inclined bedding planes of the Jurassic sediments that appear like steps down towards Loch Slapin.

Unbeknownst to me when I was colouring in that OS map on Skye, I now work for them. Nine months into the graduate programme, I currently sit in the Consultancy Services team, gaining valuable experience creating bespoke data products and services for telecommunications clients. In September, I will start a placement in the cartography department. I am excited to get started here and learn mapmaking firsthand from the experts, and I feel beyond privileged to have the opportunity to do so in an organisation with such a rich cultural heritage and central role in the discipline. I plan to continue this theme during the programme and beyond, and make a lasting positive impact on this evolving field.

ELIZABETH BAIGENT AND NICK MILLEA

Women and maps

Figure 2: Cartouche from Senex's 1710 North America. MAP RES 84, fol.6 by permission of Bodleian Libraries, University of Oxford.

In 2021 The Oxford Seminars in Cartography (TOSCA), the University of Oxford's map seminar series based at the Bodleian Library, convened a day conference on 'Women and maps'. The topic seemed timely as, despite pioneering research, mapping is still seen as having been a male preoccupation, at least until the end of the Second World War.

The British Cartographic Society kindly invited Elizabeth Baigent to speak on the topic at last year's anniversary conference, following which many attendees generously shared information about women and maps. Parts of her talk are summarised below, and readers of *Maplines* are invited to join TOSCA in bringing women back into the cartographic story.

Maps depicting women as icons or emblems

We are taught to read classical scenes in the cartouches and margins of maps from the 17th century onwards as displays of erudition to enhance the status of the surveyors' profession, but such a reading inures us to the glaring obvious: that these are images by and for men, with many of the women naked or even victims of sexual violence, for example, when maps of Europe depict the mythical Europa being raped by Zeus in the form of a bull. Figure 1, an illustration from Price's 1711 map of Africa, is typical of images in which women personify either abstract qualities (such as virtue or science) or, as here, a concrete piece of land, here Africa. The use of women to represent such things rests on a feature of Greek grammar so, while it is gendered, it is not necessarily demeaningly so. However, many illustrators seized the opportunity to portray the women nude or semi nude. Here the demeaning effect is compounded as the woman is naturalised by placing her on an equal footing with flora and fauna.

In Figure 2, the cartouche from Senex's 1710 North America, we see a similar effect with the portrayal of two Native American women. The woman with the infant appears to be personifying America with her own fecundity indicating simultaneously the fecundity of the continent. She and the other woman are bare breasted for the enjoyment of male viewers, and reposeful, naturalised among exotic animals. The man, with his muscular form and active pose, recalls classical statues of athletes throwing javelins, while his hair recalls classical curls and African tight curls more than Native Americans' hair. He is evidently a noble savage, active and martial while the women are passive and peaceful.

In Figure 3, from the frontispiece of Visscher's c.1705 Atlas Minor, both men and women are portrayed in decorative poses. Atlas flexes his muscles to hold up one globe while Neptune sits astride another in dominating position. Two women are, unusually, portrayed fully and even modestly clad in regional costume, while the standing figure makes the classical modesty gesture with her hand. The prominent flying woman is naked save for some classical drapery, which aligns with her classical hairstyle, as she plays her trumpet. Not generally recommended as a performance technique, nudity is evidently designed largely for the male viewer.

Senex and Maxwell's *South America* (Figure 4) is dominated by an Amazon in martial dress, having just unleashed an arrow. Though her pose recalls classical contrapposto, the unnaturalness of her ferocity is compounded by scenes of cannibalism going on behind in a travesty of a typical feminine domestic genre scene. Though her breasts are exposed, she is depicted to cause anxiety more than pleasure to the male viewer.

Figure 1: Price's 1711 Africa. MAP RES 84, fol.4 by permission of Bodleian Libraries, University of Oxford.

Figure 3: Frontispiece of Visscher's c.1705 Atlas Minor. MAP RES 85 by permission of Bodleian Libraries, University of Oxford.

Looking critically at these stylised representations of women is a precursor to seeing beyond the stereotype and starting taking a more positive view of women's relationship with maps.

Maps by women

While it's certainly true that few women are named on maps as cartographers, many women were involved in family map businesses, with wives and daughters involved in printing, colouring, selling, maps and in all the organisational aspects of running a cartographic business. This often becomes evident only after the death of the male head of the business, when his widow takes his place. The distinguished 18th-century map maker John Rocque and his widow Mary Ann are good examples of this. Sometimes widows continued trading under their late husband's name so their role is hidden, but happily we know of Mary Ann Rocque's work, but the same is not true of maps by S. Hall. We cannot tell if the map in Figure 5 is by Selina Hall or her husband.

Some genres of maps were made almost exclusively by women: embroidery maps for example. Jeanne-Marie le Prince de Beaumont (1711–1780) is credited by some as having invented a whole genre of maps – dissected puzzle maps for children – though others credit Englishman John Spilsbury.

Maps for women

We can learn much about women's relationship to maps in earlier centuries by looking at paintings. We are used to seeing men portrayed with maps or globes, but there are many images from the 17th century onwards of women, of even modest means, sharing domestic spaces with wall maps – a juxtaposition which shows women's familiar co-existence with maps by this date. From the 20th century there are many images of women using maps for navigation, with women's mobility and the cartographic tools to guide that mobility portrayed as key elements of modernity.

Maps about women

As interest grew in the 20th century in women as a distinct category for social enquiry, male and female cartographers used maps to draw attention to social phenomena which affected women particularly or differently from men: female literacy rates or access to capital for example. Such activist cartography draws attention to phenomena which might otherwise go unremarked.

Women as map librarians, journal editors, and convenors of seminars in the history of cartography

Women's contribution to map curating is striking. While at the recent BCS conference, Elizabeth Baigent was the only female speaker in the main day's talks, the map curators' session the previous day heard papers by several female custodians of significant map collections: from the UK alone were Katie Parker of the Royal Geographical Society, Emma McDonald of the Alpine Club, and Rose Mitchell of The National Archives. Their forebears include Helen Wallis of the British Library, Margaret Wilkes, of the National Library of Scotland, Sarah Tyacke of the National Archives, and Yolande Hodson of the British Library and Royal Archives. The pattern is widely repeated internationally. These women's service has underpinned much research by scholars and brought maps to the general public in exhibitions, while their own research has furthered our understanding.

Conclusion and help!

Women, then, have been part of the story of maps for longer than most people think, whether as active map makers and users or in passive depictions designed for the male gaze. They can be hard to track down and our assumptions can prevent our looking for them in the first place: Elizabeth Baigent was delighted at the BCS conference for example to learn about women involved with maps in Military Survey and the British Geological and Antarctic surveys – and chastened because she hadn't thought of looking there.

If *Maplines* readers know of women involved with maps, especially before the 20th century, we'd be delighted to hear. tosca@bodleian.ox.uk

Figure 4: Senex and Maxwell's *South America* map. MAP RES 84, fol.7 by permission of Bodleian Libraries, University of Oxford

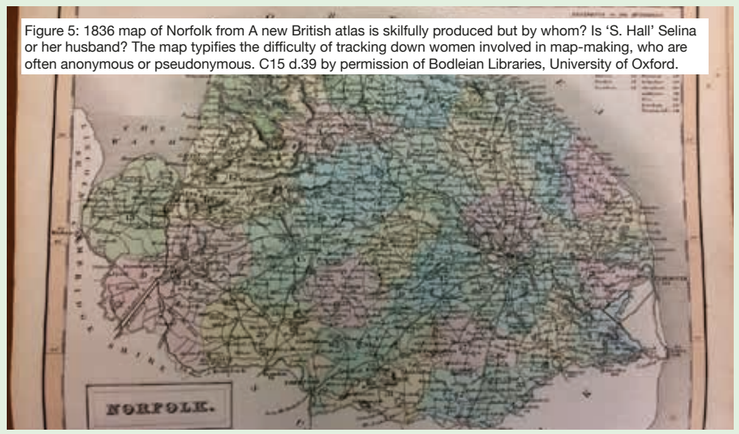
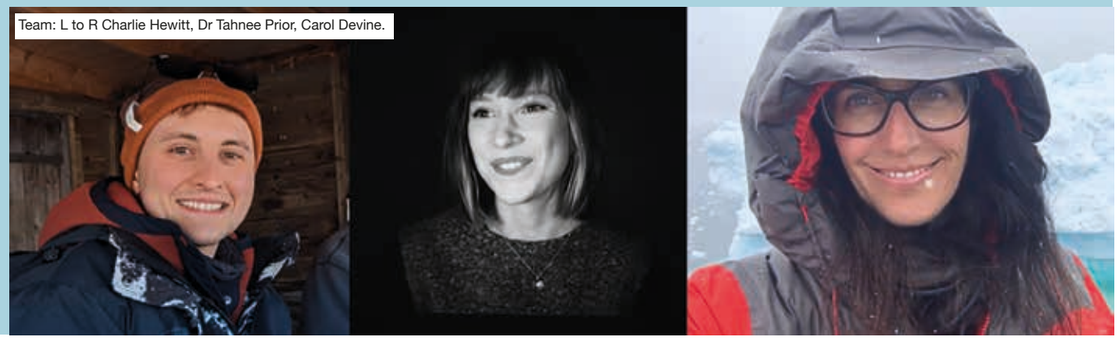


Figure 5: 1836 map of Norfolk from A new British atlas is skilfully produced but by whom? Is 'S. Hall' Selina or her husband? The map typifies the difficulty of tracking down women involved in map-making, who are often anonymous or pseudonymous. C15 d.39 by permission of Bodleian Libraries, University of Oxford.


Team: L to R Charlie Hewitt, Dr Tahnee Prior, Carol Devine.

Mapping Women+ of the Arctic

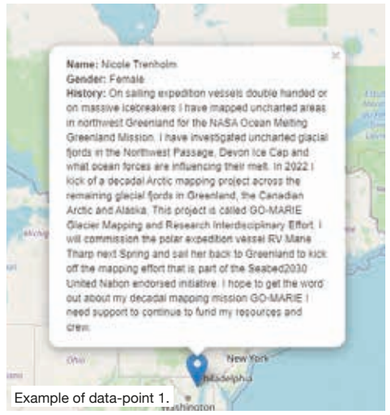
Mapping Women+ of the Arctic is a collaborative project between Charlie Hewitt (Digital Ecologist, Digital Ecology Ltd.), Carol Devine (Chief Operating Officer, SeeChange Initiative, Community Scholar/ Dahdaleh Institute for Global Health Research, York University), and Dr Tahnee Prior (Co-Lead, *Women of the Arctic Ry*). The project exists at the intersection of digital cartography, and social and polar geography, aiming to visually consolidate and shine a spotlight on the contributions and stories of women+ who work in, live in, and engage with, the Arctic. Digital cartography provides the perfect platform for us to achieve this.

Historically, the majority of well-known contributors to Polar history of exploration, research, and society, has been white and male dominated; stories of explorers such as Scott, Amundsen, Shackleton and Nansen play forefront in our minds. The contributions of women+ to Polar history, as well as to society, knowledge, science, education, art, politics and more, today is largely overlooked. We use the term 'women+' to recognise not only women within this project but also to highlight others within Polar history, especially in the Arctic, whose stories and contributions may have gone undocumented, for example Indigenous and LGBTQ+ individuals.

With the societal shift recognising the importance of diversity of narrative and experience, this project attempts to fill the gap of missing women+s' voices and stories within Polar history and contemporary narratives. The project attempts to redress this structural imbalance through the creation of an interactive mapping tool that collects and visualises these stories.

The tool consists of a web-based shiny app, with an interactive Leaflet map interface. The project is created in R. To use the tool, a user clicks on a location on the map where they'd like to add their record or nominate an individual. A pop-up box appears, with the option to put in a name, age, gender and description of themselves or the person they're writing about. Once the user presses the submit button, the record is pushed to a database, and a pin appears on the map. When a pin on the map is clicked on, a pop-up box appears with the details that were submitted. Users can click on others' pins and read the different stories that have been contributed to the project, sharing past and present women+s' contributions to Polar history and contemporary society in the Arctic today.

The project is now in its final stages, and is ready to be tested with users contributing data – we hope to take this project to workshops and conferences in the near future. If you're interested in either getting involved within the project, or contributing to the database, please get in touch.
charlie@digital-ecology.co.uk



Example of data-point 1.

Example of data-point 2.

Example of Data Input Box.

MINERAL MEANDERINGS: MANCHESTER ROCKS!

Charlie Lawler, GIS Consultant at Urban Green, and Greater Manchester resident

Rocks and minerals are everywhere! We brush shoulders with, step over, live and work within geology that many people overlook. Stepping out of your office, going shopping, or socialising will have you walking back in time across millions of years through the geology that forms Manchester's built environment.

'A Building Stones Guide to Central Manchester' takes you on four routes across Greater Manchester. These routes journey from the Carboniferous period with Crosland Hill Sandstone to the Jurassic period with Jura Grey limestone, the same stone in which the famous Archaeopteryx fossil was found in the Solnhofen area. Each route is naturally structured, taking about an hour to walk with the book as a guide, and the points of interest that can be explored in any order the user wishes. Route A navigates the western side of the city. It stretches from the Bridgewater Hall, adorned with its red Triassic Corsehill Sandstone, to Manchester Crown Court, featuring 18 points of interest. These landmarks take you on an extraordinary journey through a bustling city, revealing different eras through the materials used in its buildings, some of which contain an abundance of fossilised life; for example, at Crown Court, you can see Portland Roach, packed with bivalves and calcareous red algae.

The structure of the guide and the description of points of interest are well designed. With no strict route to follow, it allows for spontaneity and the ability to create customised routes across all four sections, catering to your interest in particular building stones, geological periods, or parts of the city centre. The book offers a new perspective on the city and its amazing geological heritage. The creativity in planning your route and mapping your way through the various points of interest makes the experience even more enjoyable.

The map of the routes in the book is very straightforward and easy to follow. Some of the points of interest require reading the accompanying information to locate specific features, which is explained well. It is up to the user's skills to find some of the smaller, more obscure points of interest, such as the fossil gastropods located in the concourse of the Great Northern.

Understanding the geological history embedded in urban environments like Manchester goes beyond mere academic interest. It enriches our appreciation of the city's architectural heritage and deepens our connection to the past. By recognising the origins of the materials with which we built our cities, we become more aware of the natural history intertwined with human history. This awareness can inspire efforts to preserve and respect these historical materials and the stories they tell.

A Building Stones Guide to Central Manchester, ISBN 978-0-9928713-1-4, is published by the Manchester Geological Association.

Back story: The original edition of *A Building Stones Guide* to Central Manchester by Fred Broadhurst and Morven Simpson was first published over forty years ago, but much has changed in Manchester requiring a new edition led by Peter del Strother and Jennifer Rhodes (Manchester Geological Association). Rhodes designed the guide and the maps.

Rhodes and del Strother also contributed to the region's input to the English Heritage-led Strategic Stone Study, carried out with the British Geological Survey (BGS). This included data from a range of local geological societies and is available via an on-line GIS (check out your local buildings (England)): https://mapapps.bgs.ac.uk/buildingStone/BuildingStone.html

Source – Jennifer Rhodes, Editor of North West Geologist for StoneSpecialist www.stonespecialist.com/news/market-intelligence/building-stones-manchester-new-geological-guide-published

MapEx2024 – MapAction's annual disaster response simulation event

MapAction is a UK-based charitable organisation that provides local governments and partner organisations with the geospatial, mapping and data expertise to aid in humanitarian and natural disaster related relief. They work to provide support for both anticipatory action as well as timely response after a disaster has happened. MapAction originated as three people and a personal bank account in a response to the 2004 Boxing Day tsunami. It has since grown to become part of the global humanitarian furniture showing up anywhere in the world that a natural disaster should strike. MapAction is made up of 80 volunteers, 25 staff and partner agencies like the UN, Start Network, the British Red Cross, UNICEF and many others who came together to participate in the annual disaster simulation exercise.

The event

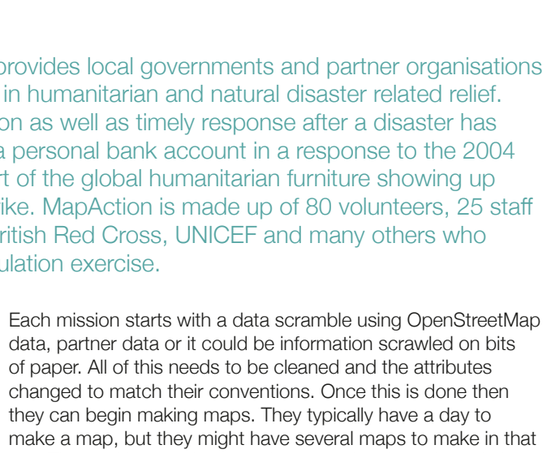
This year's simulation took place at the Hallowford Centre just outside of Castleton in the Peak District. The scenario was responding to a fictional cyclone based in Madagascar. This year was more computer-based then past events because they were sharing the site with children who were doing ropes courses and other activities while the event was going on. Despite taking place indoors everyone was dressed for the great outdoors and the weekend's accommodation was 'bring your own tent'.

I could hear different accents and languages being spoken around me. Seheno Andrianiaina is from Start Network's Madagascar office. She was there to provide country-specific information and feedback on the response efforts. Cyclones are regular occurrences in Madagascar. MapAction is working with the Start Network on anticipatory responses with local authorities. Ronald Christiaans is part of the Netherlands UNDAC contingent (United Nations Disaster and Assessment) who is deployed to disaster zones worldwide to coordinate the international response, collect data and analyse data. The data is then shared with MapAction whose job is to visualise that data.

Each mission starts with a data scramble using OpenStreetMap data, partner data or it could be information scrawled on bits of paper. All of this needs to be cleaned and the attributes changed to match their conventions. Once this is done then they can begin making maps. They typically have a day to make a map, but they might have several maps to make in that day. The goal is to make something functional, not beautiful. They are creating maps with the intent of them being quickly and easily understood regardless of language spoken. Paper maps are key and everything is printed. Scribbling on a paper map is still seen as the best way for planning, collaborating and brainstorming on the fly. There isn't always internet access, or if you have internet the people that you are providing the maps for may not. When they can access a signal they are more often than not faced with low bandwidth and the maps are reduced to the bare minimum, even removing the base map itself. At the end of each mission the goal is to leave the know-how where they have been by training local organisations.

The staff

This is where the standby team comes in. Alistair Wilkie is part of the small full-time staff to ensure that there is always a minimum of two people ready to be deployed at any moment in addition to volunteers. The standby team remains at the disaster location after the volunteers have all gone back to their normal lives, to train the local organisations and build relationships that extend into long-term continued training and support. When the team is not in the field they are tasked with picking up any tasks that need doing, providing maps on demand and training.



The volunteers

MapAction trains monthly; half are in-person and half are virtual. Volunteers are expected to attend at least six training sessions per year. They all have day jobs and would typically only deploy for two weeks if they are available to do so. I spoke to Alice Goudie who deployed to Türkiye to respond to the 2023 earthquake. She spoke of how her main job while there was to get data and put it into a usable format. She would then make one map that she was happy with and compose the others by turning on and off layers. It sounds easy enough, but remember that data can be anything and it all needs to be compiled into something usable, not to mention the element of stress. She spoke of sleeping in a hotel with four to a room that had been deemed safe only to be reclassified as condemned the following day. The aftershocks were constant and sleeping felt more like surfing. There were four toilets shared among 1,000 people.

'Live extractions' were still taking place two weeks later, which is unheard of. Two girls were found in the rubble next to their decomposing parents and a newborn baby was found alive yet their entire family had died. People slept in their cars and makeshift tents despite the evenings getting down to -10 degrees Celsius because they were too afraid to go back into buildings.

Emerson, whose last name I didn't manage to ask but he is a prominent character in the MapAction community and perhaps doesn't need a last name, spoke of his experience being deployed to Haiti to respond to the 2010 earthquake. He was bitten above his eye by a tarantula while sleeping on a bit of cardboard on the floor of the airport. He gave a pretty fantastic imitation of what his face had looked like; don't worry, he was provided with prompt medical care. He also spoke of the challenges of mapping a country like Haiti that has few street names and no addresses. In Port-au-Prince people navigate by landmarks. They had to come up with a way to turn verbal reports of locations into latitudes and longitudes. They came up with the idea of connecting a GPS to digital cameras and getting NGOs and missionaries to take photos everywhere. Buried in the metadata was the location data that could be combined with local knowledge to create maps.

Conclusion

Collaboration, sharing of information and turning that information regardless of what it is into a usable format seems to be key to the MapAction job description. The volunteers, partners and staff come from all walks of life bringing their experience and expertise. It seems that regardless of circumstance they just get the job done. There's a definite community feel with a strangely relaxed vibe considering the stresses that they are tasked with. Important decisions are made based on the maps that they make and lives are saved.

Special thanks to Alex Macbeth, head of communications for the invitation and showing me around. Thanks also to those mentioned above for being willing to share their experiences.

By Jennifer Johnston, BCS's Restless Earth coordinator

MAPPY MARIA – ENCOURAGING MAP SKILLS

BCS member Catherine Njore is a cartographer based in Kenya. She spotted a gap in primary education when it came to maps and map work so created a series of four books aimed at encouraging young learners to engage with the activity – they are based around the character, Mappy Maria. Each book has a pullout map.
We asked her some questions about the project and how it's been received.

1. What is your background?
I hold a Higher Diploma in Cartography, I have been a cartographer for almost two decades. Having worked in the private sector, public institutions and training institutions, in 2019 I shifted my focus to children's cartography.

2. What led you to write these books?
As a trainer it dawned on me that the little interaction with maps and map work in primary and secondary level of learning in our schools was a major issue. Personally I can count the number of times I engaged with materials involving map work in my initial 15 years of learning. I was curious if our young learners in preschool would understand what a map is and started visiting a pre-primary class weekly. The learners were then four years old. We started by introducing a map and drawing the classroom map where they spent most of their daytime.

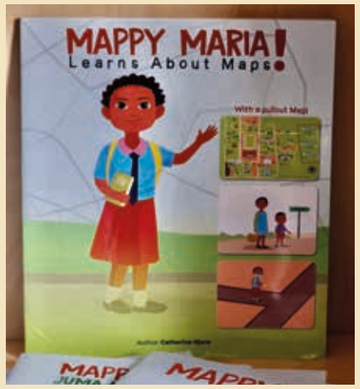
3. What is the situation with maps and primary education in Kenya?
Being keen on maps, I am aware of efforts to have more map work in the new curriculum in place. It is a step in the right direction.

4. How has your book been received in Kenya and beyond? Are they popular?
For a book to be recommended officially in schools it has to be assessed by the Kenya Institute of Curriculum Development. This is where I am at with my books. I can still respond that all who have interacted with my books have had positive feedback on the same. Actually the series of Mappy Maria books is as a result of parents who kept asking for more and I had to give in and write them. I had not initially planned writing Mappy Maria as a series.

5. Do you have plans for future books?
Yes, writing has been very expensive for me so I am taking a break but will definitely be writing some more. How I concluded the fourth book in the series where my two map characters meet and work together is a great place to pick up from as I resume writing.

6. Do the books address issues, through the use of maps, e.g. conservation, health, etc.?
Yes, yes. Since maps help us in planning and making informed decisions, all four books have addressed real-life issues and also teaching on using maps. In the first book, *Mappy Maria Learns About Maps,* she uses the map to get home from school and go to the market, and we notice as she chooses from different routes looking for the fastest and shortest. In *Mappy Maria at Mkulima farm*, she is able to plan how to get to the different sections of the farm to buy the different items on her list. *Mappy Maria Plants Trees* touches on conservation and also expounds on a few map elements that had previously been mentioned in the first book in the series. In the final book of the series, *Mappy Maria & Juma Mpenda Ramani Visit Bidii Junior School*, there's the application of orienting oneself using compass directions and again expounding on more map elements.

The greatest achievement so far is that the four-year-olds, now at 11 years old, managed to recognise that, even though the map work in the book is pictorial in representation, specifically the first book, it is actually a real place and although with fictitious names used for roads and places, they now can identify the real places and names! I felt validated at this point!



BCS CONFERENCE 2024

Wednesday 4 to Thursday 5 September
University College London (UCL)

Every year BCS puts on a multitude of events from our monthly Teatime Talks to lectures and partners visits. As a relative newcomer to BCS, I'm always amazed at the breadth, depth and range of topics and events which are put on which have such a wide appeal and which are so successful.

The highlight of the year though is our annual conference – this year to be held at University College London on 4 and 5 September. The main lectures event, held on the second day, is supported by two other events on the first – a Hackday organised by Ordnance Survey; and a networking event at Stanfords in Covent Garden, with an opportunity to network, roam around the shop, listen to a speaker talking about mapping in the Middle East and Palestine and enjoy nibbles and refreshments.

The lectures on 5 September cover a wide range of current topics of interest to all those who are passionate about maps and data and how they impact upon our daily lives. Think of finance and the news media with speakers from the *Financial Times* and *Economist* explaining all; the importance of AI in mapping; statistics and the census and how ONS is changing the way we think of their data. Two areas which have a profound effect on our lives are local authority services and education at higher and school levels. Speakers will explain how these two sectors benefit from using maps. Or how about mapping the locations of local food, the importance of geospatial data and maps in global engineering projects and how they make a difference coupled with the exploration of the future of Building Information Modelling (BIM), the vital role of maps, and the emergence of digital twins in transforming the built environment. And lastly two different ideas, one with a speaker who shares her ideas, source material and inspiration, and insights into how she transforms geospatial data into physical artefacts; and a talk on the use of earth observation across a range of map production and update requirements across applications such as climate, insurance, security, risk, asset monitoring, resource management, etc.
Something for everyone!

Bob Owen, Chair BCS Programme Committee

HOW TO BOOK YOUR PLACE
We have a range of pricing options available, depending on whether you are self-funding or being funded by your employer. Find out more on our website: www.cartography.org.uk/annual-conference.

Conference schedule

Please note, timings may change at short notice.

Wednesday 4 September

GeoViz hackday
10.30–4.30
UCL
£20 + VAT

Our GeoViz Hackday is for all those passionate about maps, data and visual storytelling, regardless of your level of experience. Using data from Ordnance Survey's National Geographic Database (NGD) we will be exploring creative solutions for real-world geospatial problems.

Why attend?
Collaborate: Form teams with fellow data enthusiasts, GIS professionals and cartographic design experts. Together, you'll explore geospatial datasets and brainstorm innovative solutions.
Create impactful maps: Dive into the NGD. Build engaging data visualisations that tell compelling stories.
Prizes and recognition: Impress the judges with your data viz wizardry and win a prize.

Informal dinner
17.30–19.00
Olea Social, St Martin's Courtyard
£36

There is an informal dinner arranged for any who might be interested. Located close by Stanfords, it should suit those who plan to be at the networking event and would like to eat beforehand.

It will consist of two courses, a sharing starter and a choice of main, and a complementary glass of prosecco. Other drinks are available to purchase.

BCS members will have a dedicated part of the restaurant so we can socialise freely.

Networking event
19.00–20.30
Hosted by Stanfords.
Guest speaker: Matthew Teller – Jerusalem and Palestine: a sense of place.

Matthew will delve into Jerusalem's mapping, with some historical context on the 'quarters' of the Old City and the approach to place names. He writes on place and culture, and his 2022 book *Nine Quarters of Jerusalem: a new biography of the old city* was a Daily Telegraph Book of the Year. He will be signing copies of his books at the event. Teller also produces and presents documentaries for BBC radio, and his journalism is published by the BBC, *The Guardian*, *The Independent*, *The Times* and *Financial Times*, among others.
Adrian Webb, author of *Churchill's Secret Chart Makers* (see pages 26–27), will be signing copies of his book.

This event is also an opportunity to renew old friendships and make new ones, while enjoying drinks and nibbles.

Thursday 5 September

Main Conference
UCL
8.45–9.15 Registration
9.15–9.30 Welcome

9.30–9.55 Steve Attewell, User Experience Practice Lead, Ordnance Survey

Experiments with AI and mapping
There's a huge potential to use artificial intelligence to get more from geospatial and supporting data. Steve will show you a variety of experiments into Generative Artificial Intelligence that investigate how we might use AI to make data, maps and insights more accessible. You'll get an insight into what new generative AI models can (and can't) do, and how they might impact you in the future.

Bio: Steve leads a team of User Experience (UX) and User Interface designers who design, test and build web interfaces and mapping applications for Ordnance Survey, the government and commercial customers. This includes UX research, diving into how customers interact on a practical and functional level, customer interviews, testing propositions, stakeholder workshops, usability testing and working with agile development teams.

9.55–10.20 Emma Diffley, Geospatial Services Manager, EDINA

Digimap: Making mapping easier
Digimap is an online map and data delivery service, offering a wide range of core spatial datasets to UK academic institutions. The service has been operating for 24 years and the range of data has expanded significantly over that time. Online mapping has also advanced significantly and Digimap has endeavoured to keep up with current technology and changing user needs. Mindful that a new cohort of novices come to us every year, the base that those students work from has also changed significantly. But the objective remains the same – to make access to and use of maps and spatial data easier, more convenient and very much more a part of the academic landscape.

Bio: Emma Diffley has worked with Digimap since its inception as a national service in January 2000. She has a background in geography and GIS and has a keen interest in making things work for the end user.

10.20–10.45 Andy Wells, MustardGEO

Everything, everywhere, all at once (almost) – Is satellite imagery finally reaching its potential?

It is fair to say that satellite imagery of the earth's surface has never quite met its potential. Yes, there have been innumerable successful projects and programmes, however, the use as a mainstream operational capability for industry and governments has not quite been achieved. Difficulty in data availability, access, commercial terms and conditions, analysis, visualisation and delivery to meet client needs have all conspired to limit use. Has this (or is this) about to change? This talk focuses on the use of earth observation across a range of map production and update requirements across a range of example applications (climate, insurance, security, risk, asset monitoring, resource management, etc.).

Bio: Andy has enjoyed a 30-year career applying geography and geospatial technology to meet the opportunities and challenges of both industry and government globally. He has spent the last 30 years in business development, management and board positions across start-ups, SMEs and multinationals – always focused on how geography (often in partnership with satellite technology and earth observation) can provide business intelligence to make better decisions. More recently, much of his work has focused on climate and nature positive activity (driven by global need, governmental policy and commercial interest).

10.45–11.15 Break

11.15–11.40 Nick Chapallaz, GeoPlace

The importance of mapping and geospatial data to UK local authorities

Driven by their responsibilities to serve the communities and businesses within defined geographic areas, local authorities are arguably the largest sector of mapping and geospatial data and technology users in the UK. A foundation to their success with increasingly dynamic mapping services is establishing and maintaining high-quality reference data for streets and land and property. Nick will explore the background, challenges, status and case studies to bring this to life.

Bio: Nick is a widely published and highly respected location-based systems and services expert with experience as an advisor to local authorities, central government agencies and private sector businesses. He has a strong track record in the use of information and communication technologies to improve the activities of both public and private sector organisations. As a member of the original committee for the creation of the BS 7666 Standard for Addressing and a Research Fellow for the National Land Information Service (NLIS), Nick has a deep understanding of the development and adoption of location standards and processes.

11.40–12.05 Matthew Lam, Graduate GIS Consultant, Mott MacDonald

Spatial is special: How we use geospatial data science to make an impact
Mott MacDonald is a global engineering, management and development consultancy with a broad portfolio of projects across various engineering disciplines. Geospatial data plays an instrumental role in supporting projects in these sectors, enabling us to understand the world around us so that we can make better informed decisions, improve efficiencies and drive digital innovation. Work at Mott MacDonald often involves wrangling complex datasets to answer multifaceted questions. This presentation intends to showcase a few projects where interesting ways have been used to give life to spatial data and make an impact.

Bio: Matthew has a background in geography and social data science. He has worked on a broad range of GIS and data science projects including 3D geospatial platform development, geostatistical modelling for risk scoring and data engineering for a computer vision pipeline.

12.05–12.30 Esra Bulut Peynirci PhD, University of Reading

Applying an information design approach to create a user-friendly digital local food map for Oxfordshire, Berkshire and Hampshire
Esra's PhD research focused on designing a user-friendly digital local food map that effectively presents information on a local food map for Berkshire, Hampshire and Oxfordshire residents. The aim was to make it easier for users to find the information they need on digital maps in a visually appealing and easy-to-understand manner. By combining user research with information design principles, this study provided a practical framework for creating intuitive and engaging digital maps. Accordingly, the findings from this study can inform future studies aiming to develop user-friendly digital map interfaces.

Bio: Esra Bulut Peynirci recently obtained a PhD in Typography and Graphic Communication from the University of Reading. Her main research interest is user-centred design, focusing on improving communication between designers and users by prioritising the user's perspective.

12.30–13.00 British Cartographic Society Awards

Our annual ceremony to present awards for excellence in cartography.

13.00–14.00 Lunch

14.00–14.25 Elizabeth Lees, Visual Data Journalist, *The Economist*

From data to design: how *The Economist* maps the news
Cartography plays a critical role in the journalistic output at *The Economist*. *The Economist* uses geospatial data in both quick daily news stories and longer month-long projects to contextualise global events, reveal complex data insights and tell compelling visual stories through maps and charts. All data visualisations at *The Economist* are made with careful consideration of what medium they will be seen on, from the weekly print issue to social media. Each of these mediums come with their own challenges that have to be considered in order to make the final project informative, accessible and engaging. This talk will highlight the diversity of data-driven projects at *The Economist* discussing the data collection and design choices that culminate in a final product seen by millions of readers around the world.

Bio: Elizabeth Lees joined the data team as a trainee in 2021. She creates data visualisations for the online Graphic Detail section and weekly print edition. Before working at *The Economist*, she studied geography at University College London and the University of British Columbia.

14.25–14.50 Ahmad Barclay, Office for National Statistics (ONS)

Visualising local insights: census and beyond
Over the past several years, the UK has been publishing an increasing volume of official statistics for local authorities and smaller area geographies. However, the ability to navigate, visualise and comprehend this data has largely been the preserve of technical specialists. This talk will explore how the digital content innovation team at the ONS sought to break down these barriers for Census 2021 data, covering projects including 'Census maps', 'Build a custom area profile', and localised 'How your area has changed' articles. The talk will also look at how the experience of census is informing their ongoing work on the Explore Local Statistics service, which seeks to provide localised insights from a wide variety of annual, quarterly and monthly datasets from across government.

Bio: Ahmad Barclay is an architect, UX designer and coder who currently heads up the Advanced Formats and Data Dissemination team at the Office for National Statistics (ONS). Previously, he led award-winning infographics and visual storytelling projects as a founding partner with Visualizing Impact, and initiated Palestine Open Maps, an open data project supported by Mozilla and Creative Commons. Ahmad has contributed to a variety of publications, and facilitated courses and workshops based on his projects and practices in Beirut, London, Lisbon, Amman and Bangalore.

14.50–15.15 Alan Smith, *Financial Times*

Mapping the news: back to the future
Maps are being used by news organisations in an increasingly varied set of roles. This talk will explore their adoption at the *Financial Times*, using old and new examples to consider how cartography remains an important constant in an era of rapid technological change.

Bio: Alan leads the FT's newsroom team of data reporters and visual journalists. A data visualisation specialist, his TEDx talk 'Why You Should Love Statistics' was featured on TED.com in 2017. Alan is the author of *How Charts Work*, a handbook on designing with data using the FT's principles. He is also Honorary Professor of Practice at UCL's Social Data Institute. Before he joined the FT, he was head of digital content at the UK Office for National Statistics where he was awarded an OBE in 2011 for services to official statistics.

15.15–15.45 Break

15.45–16.10 Steven Eglinton, geospatial data expert

Mapping the future of the built environment: BIM, digital twin and beyond
This talk will explore the future of Building Information Modelling (BIM), the vital role of maps, and the emergence of digital twins in transforming the built environment. We will examine the latest trends and developments, emphasising the increasing need for skills in mapping, geomatics and data visualisation due to the [over] abundance of geospatial data from various sources and of very varying qualities. Insights will be provided on how integrating maps and digital twins with BIM leads to more efficient, sustainable and intelligent environments, and why expertise in these areas is more crucial than ever.

Bio: Steven Eglinton FBCS has over 24 years of experience in the fields of mapping, GIS/geospatial solutions and information governance, mainly in environmental, Architecture Engineering and Construction (AEC) and operations. He has worked with the UK government, World Bank, Transport for London and large companies in the field of asset register development, including 'asset mapping' activities and asset valuations. He is the founder of GeoEnable, a company that provides geospatial insights and digital change to businesses and governments. Steven is a passionate advocate for the use of geospatial data to solve real-world problems.

16.10–16.35 Loraine Rutt, Georama Globes

Cartography, clay and 21st-century pocket globes
When pocket globes were first made in the 1600s it took two years to circumnavigate the Earth. These miniature worlds, used to share stories of travel, trades, investments and exploits, reflect the Early Modern thirst for geographical knowledge. The International Space Station now orbits Earth every 90 minutes, and with a digital world map existing inside our mobile phones, our access to geography is instantaneous.

Following a tradition of 'Narrative Ceramics', Loraine's work has been described as 'souvenirs of the 21st century'. In this talk she shares her ideas, source material and inspiration and insights into how she transforms geospatial data into physical artefact, to make 'future archaeological artefacts'. With cartography as her muse, her work explores how maps influence our sense of place and belonging, and the power of objects to make tangible connections to Earth.

Bio: Loraine is a British artist who lives and works in London. Working predominantly in ceramics she also draws and constructs works in paper, and previously worked as a cartographer at Birkbeck College, University of London. Her work is in private collections worldwide, and has been purchased by The Museum of London and The National Maritime Museum for their permanent collections.

16.35–16.45 Closing remarks

Join the conversation on social media #carto2024

Book your place at our conference via Eventbrite.
Visit www.cartography.org.uk/annual-conference for the links.

Answers to the dastardly puzzle (from left column down, then right column down):

Singapore
Khartoum
Tehran
Colombo
Orlando
Ramsgate
Royal Tunbridge Wells
Moscow
Canterbury
Hamburg
Budapest
Amsterdam

MORE THAN MAPS

More than Maps is Ordnance Survey's new online self-serve platform designed to empower users with geospatial insights. This new tool from the Consultancy & Technical Services team provides access to a wide range of tutorials, tools and easy-to-use resources helping you get the most value from our data, while developing your knowledge and expertise.

The online resource is served through the popular documentation-sharing platform gitbook and provides you with an accessible and user-friendly toolkit including cartographic and visualisation techniques and spans the simple to the very complex.

The new platform is split into six easily navigable sections.

1. GEOGRAPHIC DATA VISUALISATION

This section is about the power of visualisation. It breaks down the science of cartography into easily digestible chunks and looks at different methods for visualising data, providing useful guidelines to follow when creating your own. It also has some great resources for getting started with OS data.

2. DATA IN ACTION

Data in Action is all about showing the 'art of the possible'. How can geographical data be used and what can you do with this data that perhaps you did not know? It also provides real examples of how geographical data is being used to support a range of different topics.

3. TUTORIALS

Here you can find a great set of tutorials that help take users through step-by-step instructions on how to use geographic data for different scenarios or in different applications and software.

4. DEEP DIVE

Deep Dive contains in-depth articles and discussions on common topics, providing narrative, code snippets, images and interactive examples. They are industry focused and aimed at a more technical audience.

5. DEMONSTRATORS

Our demonstrator's section is where you can access lightning talks on a variety of different topics. There is a wealth of really great information here served through digestible and accessible slide shows. A more recent addition is our product demonstrator which allows users to preview OS data without having to download it first.

6. CODE

Finally, this section provides interactive code examples for getting started with OS content and services. This section is primarily aimed at the developer and data science communities across the public sector and the OS licensed Partner channel.

More than Maps is a tool that fosters inclusivity and democratises access to a range of geographic information. It allows you to independently explore and retrieve information about geographic data and empowers individuals from diverse backgrounds, regardless of your technical expertise or experience level.

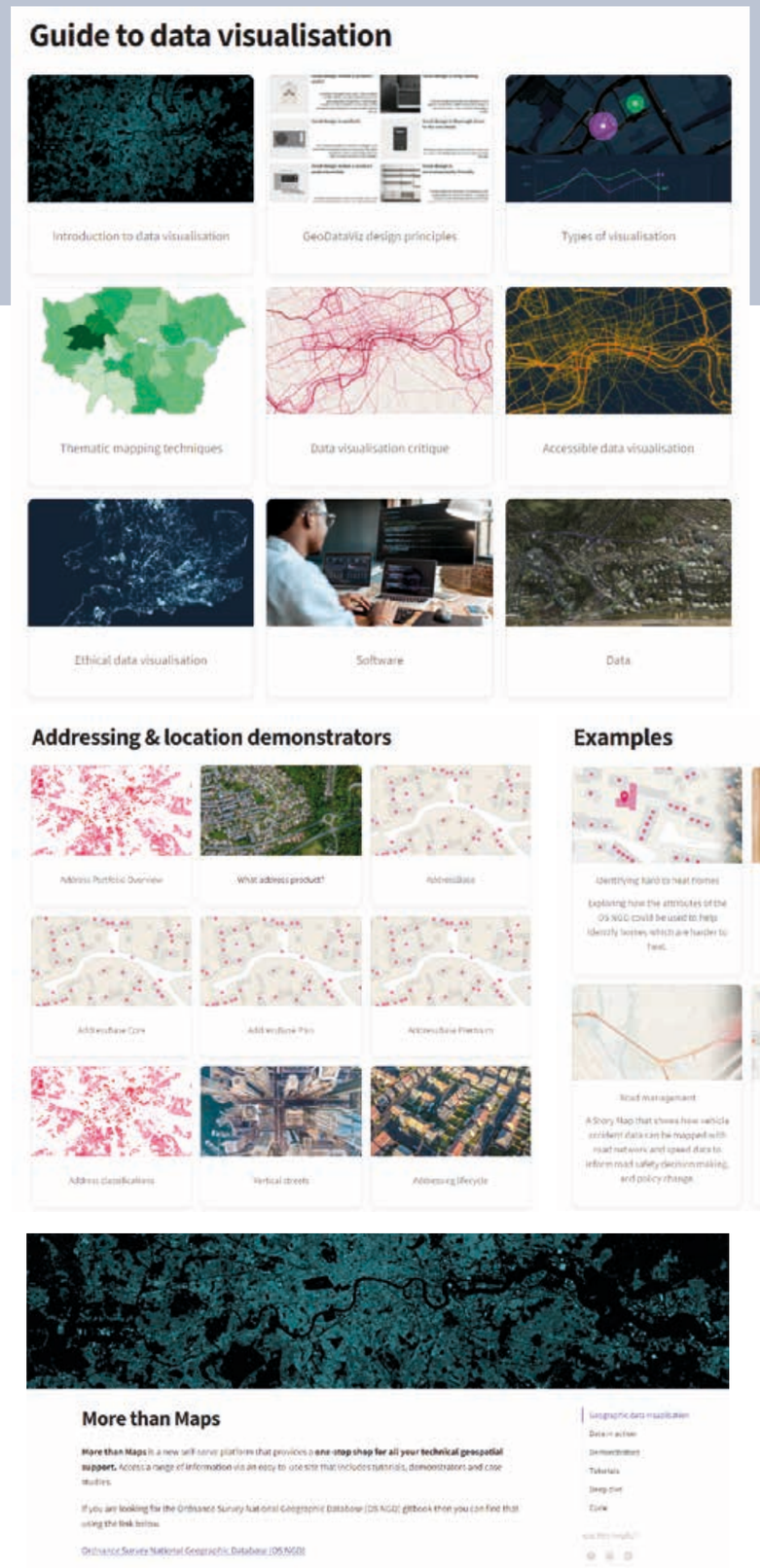
The new platform also invites community contributions, engaging with passionate users who can report issues, suggest improvements, or even contribute content.

So please do take a look and let us know what you think or what content you might want to see added in the future.

We have not just built a self-serve platform. We are helping foster a community.

docs.os.uk/more-than-maps

Please send any feedback or ideas to geodataviz@os.uk

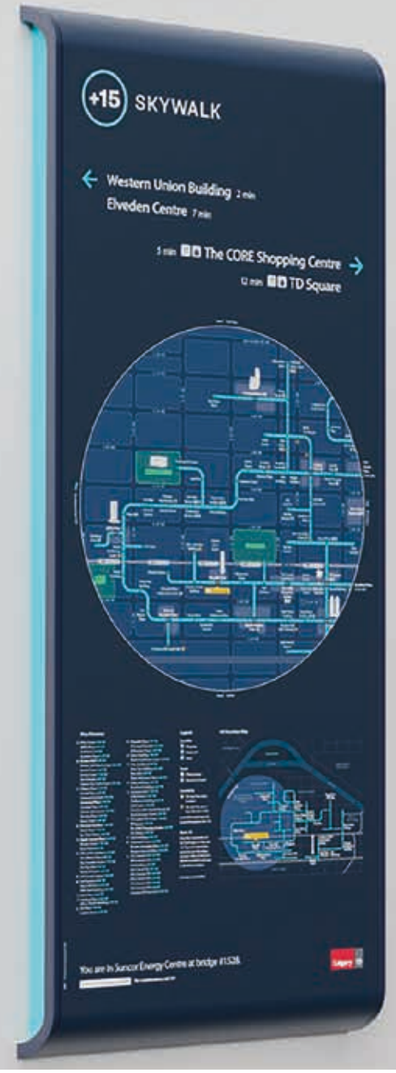


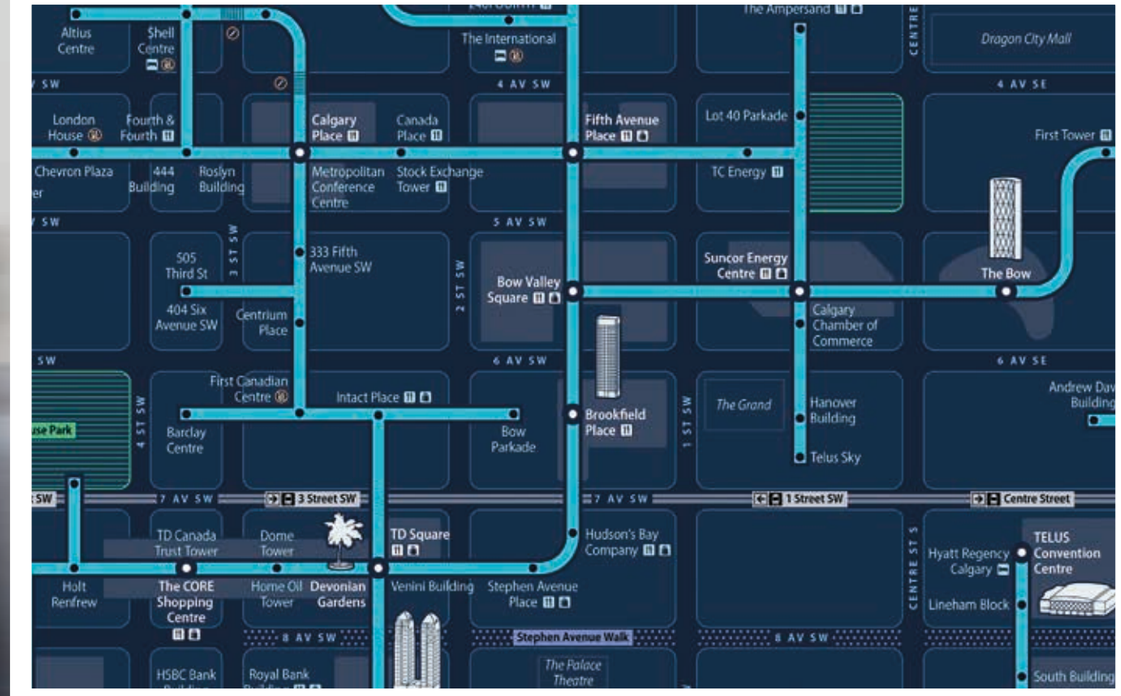
Mapping Calgary's +15 Skywalk

By Clare Seldon and David Kopulos
Steer

Last year, Steer entered the John C. Bartholomew Award category of the BCS Awards 2023 with our Calgary walk map. We were thrilled to win that category, and our map has since been selected for inclusion in the next volume of the NACIS Atlas of Design.

Our map is a thematic metro-style walking guide designed to help residents and visitors navigate the +15 Skywalk in Calgary, Canada, while reflecting the city's modern cowboy culture.





Why did Steer develop this map?

For decades, the +15 Skywalk – so named because it sits 15 feet above street level – has been notoriously difficult to navigate. Its 16 kilometres of weather-protected and climate-controlled walkways and retail concourses were built in stages and supported by an outdated signage system. The original 1980s-era 'cowboy' logo and bold map evoked the city's frontier spirit and high-tech aspirations but hadn't been updated as the +15 expanded and accessibility standards evolved. These wayfinding issues discouraged people from using the +15, impacting potential retail revenue and preventing the network from serving as the 'elevated city' it was intended to be.

Steer have worked with the city of Calgary to develop a new contemporary wayfinding system since 2021, and the map was an integral part of that development in 2023.

Our solution

To address these needs, we developed an improved wayfinding system centred around a new thematic walking map at two scales relevant for pedestrian wayfinding. The map treats the walkways like a transport network, adopting the schematic style of a metro diagram while paying homage to the original bold map style and blue colour palette.

The map was designed from the outset to contribute to the overall accessibility of the +15. To assist people in planning step-free journeys, the maps clearly show the locations of stairways and accessible alternate routes. Whimsical touches like a palm tree marking a public conservatory (a popular destination in wintry Calgary) and the iconic white 'Stetson' cowboy hat give the map a unique sense of place – and a welcome sense of humour!

Challenges we overcame

We simplified the network's complexity by applying a transport diagram approach, using the familiar language of lines and stops to portray the network as approachable rather than daunting. We overcame public concern about changing the map by incorporating design cues and from the previous map, and by applying feedback from over 500 survey respondents.

We created consensus among stakeholders about what points of interest should be included on the map by developing content criteria that kept the focus on the amenities and destinations most relevant for journeys on the +15. We helped the city to achieve a quick win before a multi-year sign roll-out by creating a version of the map suitable for installation as a sticker on top of some existing signs, which resulted in 60+ maps installed within weeks and at minimal cost.

Next steps

With the pedestal maps now in place, the development of the context map and roll-out with new signage can take place. The city are currently in procurement stage and will lead to fabrication and installation later in 2024–2025.

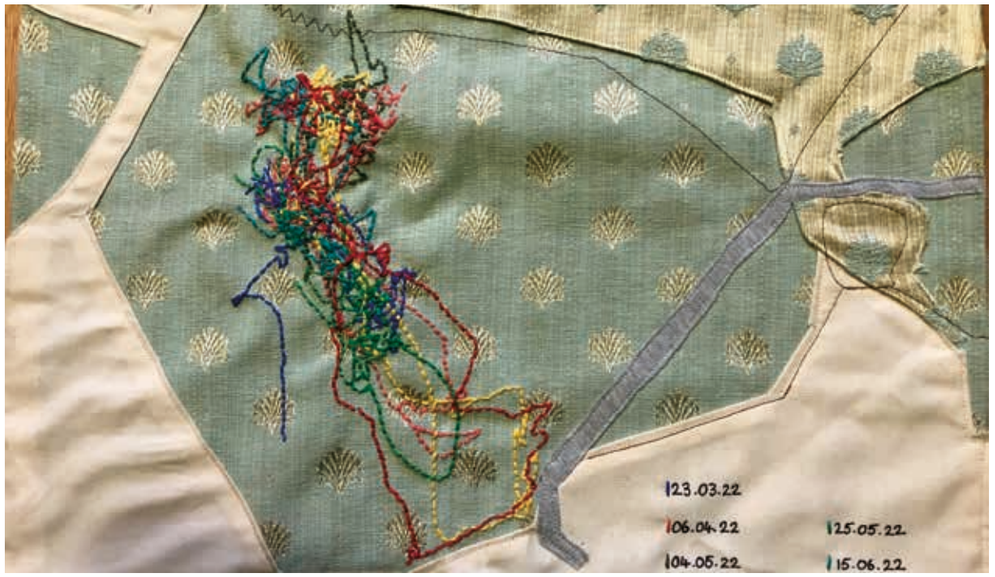
You can follow progress on the city of Calgary website at engage.calgary.ca/plus15propertyowners

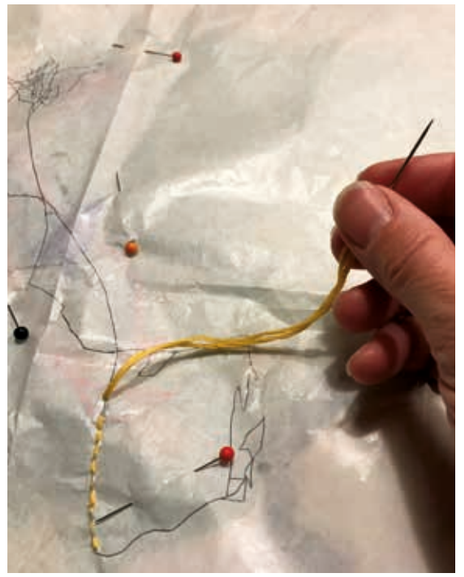
You can see more of Steer's work on data visualisation, mapping and information design via our portfolio at dfm.steergroup.com

Generating new meanings within a known landscape – subjective map-making in an urban forest school

'I think it's ownership of the space. That getting to know a place inside out' – one primary school teacher describing the experience of visiting the same wild woodland place, every week, for a whole year.

This is a story about a subjective map-making project that took place in an urban forest school. As part of my doctoral study at Northumbria University, I spent many weeks in a small woodland which was part of an urban park in north-east England. There, I explored the adults' and children's experiences within this familiar space via theories of material and bodily entanglement. Although my research field is education, my methodological approach crossed disciplines unexpectedly into the field of cartography. My map-making project arose from the question: what if I could find a way to visually record my growing bodily knowing of the space?





Initially, this was not an easy space to get to know. The forest school site was quite challenging to navigate, even for the adults. There were so many impenetrable bushes that we lost our bearings quite easily. I began to wonder what would happen if I recorded my own personal trails – the random web of lines that my tracks created during each forest school session – and what mysteries that process might reveal about the nature of the space itself.

So, over seven separate visits to the forest school site, I tracked my unplanned wanderings around the forest school site. I generated weekly 'digital route maps' using the Global Positioning System (GPS) technology in my sports watch. I then transferred these lines onto a site map which I generated using the free-to-use digital mapping tool, Open Street Map (www.openstreetmap.org).

When I looked at these digital lines of travel, overlaid onto the inert green space with its scattering of regular tree symbols, I was disappointed. The digital map felt so far removed from my muddy traipsing through the undergrowth that it seemed to reveal very little. And so I decided to make something more material and tactile out of my route maps.

I fashioned a piece of scrap fabric into a base map of the woodland site. Then, I printed each individual route map onto paper, traced these lines onto dressmaker's tissue, and embroidered each individual route onto the map. I layered each route on top of another like a digital embroidery sampler, until I had embroidered all seven GPS tracks overlaid on a single piece of fabric.

The physical sewing task process caused me to consider again and again how the forest school site acted upon me, rather than being an inert landscape. Specific places and features caused us to spend extended time in them – a towering beech tree, a mound of earth where dinosaur bones might be buried, a fallen tree trunk that became a boat – and this became materially apparent as I struggled by hand to place stitch upon stitch in the same place on the fabric of the map.

The resulting creation was not a map in the sense of any objective representation of the world. Rather, it was a lively and inaccurate portrayal of a messy process of forest school engagement, full of accidental and intentional distortions. I responded naturally to the space and the activities therein and my tracks betray a certain chaotic randomness. However there is also a sense to my recorded movements which I perceive as a faithfulness to the integral physical features of the site, and the activities that the site generated. Here is the mud patch, there we hiked up to the climbing tree. Oddly barren areas where children and adults did not tend to linger are hastily crossed with a quickly stitched line. The agency of the space itself is laid out on the stitched fabric where my finger traces the well-worn patterns of our wayfaring.

What then can the creation of a digital living map such as this tell us about the way we inhabit a space? Picture a special place in nature that you know 'inside out', maybe somewhere from your childhood. Do you carry fragments of knowledge about that space that not even the most intricate map could capture? Everyday digital applications might easily be used to record this inner ownership of a landscape via one's movement around the space. We may then discover the hidden ways in which the landscape can 'talk back' to the map.

Dr Joanna Hume, Northumbria University
joanna.hume@northumbria.ac.uk

THE COW AND THE TERRITORY

Doug Specht, University of Westminster

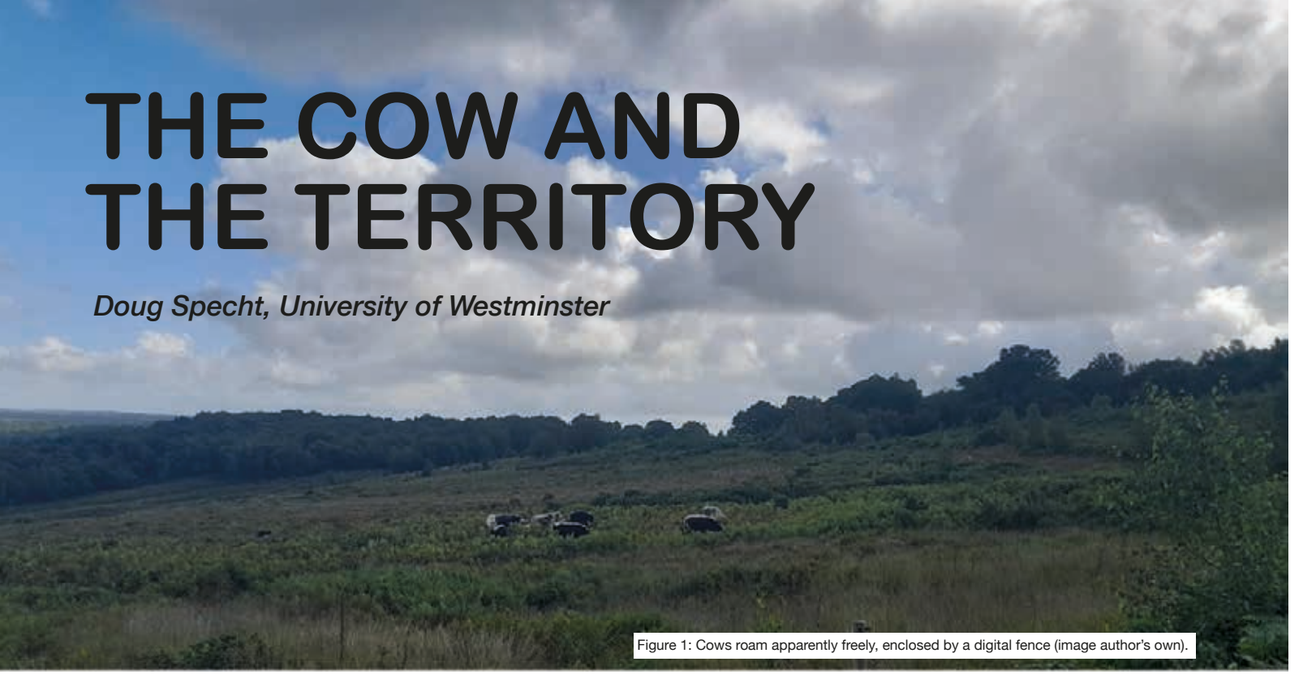


Figure 1: Cows roam apparently freely, enclosed by a digital fence (image author's own).

A crisp autumn morning walk through the South Downs. The mist begins to lift across the heathered landscape, revealing bright yellows of gorse and vibrant purple Calluna. Among these appeared to be a herd of cows roaming free across the landscape. With no fence in sight, I was first alarmed that they might have escaped from their field and were now causing harm to the land and much distress to the farmer.

Then, a small sign announced that there was nothing to be concerned about, but rather that these cows were being managed through a relatively new system of digital fenceless grazing. Fenceless grazing itself is far from new; trained herding dogs and skilled shepherds have long worked to manage their livestock movements across open landscapes. Here, though, technology replaces the dogs, and the shepherd or farmer gets to manage their livestock via an app and from the comforts of their own home should they wish.

Fenceless grazing, also known as free-range grazing, is a method of allowing livestock to roam and graze freely within a designated area without the use of physical barriers such as fences. This approach relies on various techniques to manage and control the movement of the animals while promoting natural behaviours and optimising land use. In this particular case, the farmer could use an app to draw out the boundaries of where they would like their herd to roam. The cows would be notified as they approached this invisible boundary by a noise from a specialist collar. Should the cow continue to stray past this noise, a small shock would be administered – data suggests that it takes little more than a day for the cows to understand the sound and to avoid being shocked ever again.

Fenceless grazing offers several benefits, including improved animal welfare, as the livestock have more space to roam and exhibit natural behaviours such as grazing, foraging and socialising. It also promotes soil health and biodiversity by allowing for more diverse vegetation and reducing soil compaction. Additionally, fenceless grazing can be more cost-effective than conventional fencing methods, eliminating the need for expensive infrastructure and maintenance. These reduced costs encourage and promote rotational grazing systems where the grazing area is divided into smaller paddocks or sections, and the livestock are periodically moved from one section to another, allowing the previously grazed areas to recover while ensuring that the animals have access to fresh pasture.

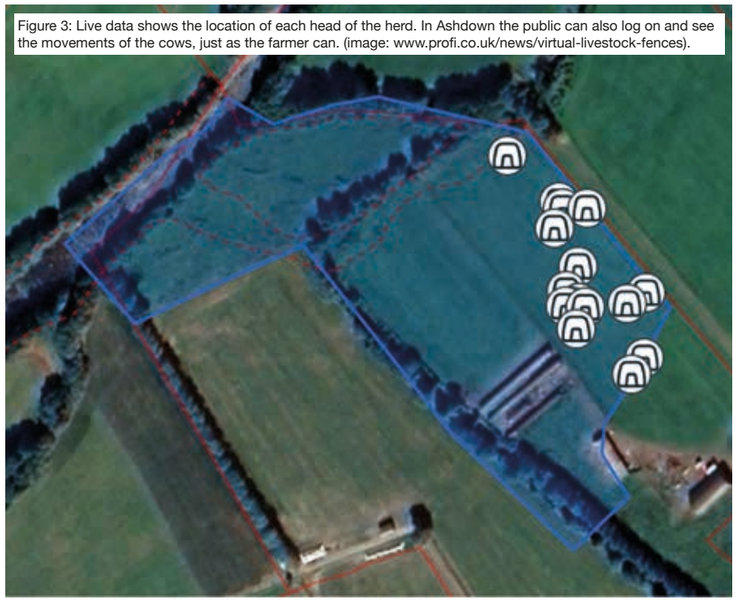
Within the modern mobile phone-driven variant of ancient farming practices, there is also an interesting series of questions for geographers about the interactions between the (digital) map, the herd and the landscape. It is generally well understood that maps play a significant role in shaping landscapes by influencing how people perceive, interact with, and modify their environments. Here, though, those links are laid out for all to see.

The farmer, sitting potentially miles away, far from the pasture itself, is able to influence and produce the territory and landscape. The app and its map used for managing cow grazing dictates where the animals are allowed to roam and graze within a designated area. By delineating specific grazing zones or paddocks, the map (re)organises space and defines territorial boundaries within the landscape. Each paddock becomes a distinct territory where the cows are directed to graze, influencing their movement patterns and distribution across the land. And in turn, how the cows shape the landscape with their hooves and grazing.

The map remotely changes resource allocation and land management practices within the grazing area. For example, rotational grazing systems, facilitated by the app/map, regulate the timing and intensity of grazing in different paddocks to optimise vegetation growth and soil health. This allocation of resources within specific territories shapes the availability of forage and grazing opportunities for the cows, influencing their behaviour and productivity. It also influences the landscape for other flora and fauna. The movement of a line on a mobile phone may well change the fortunes of a plant and the animals that live within it. The map, therefore, becomes a tool for orchestrating human-animal interactions and shaping the landscape according to specific management objectives – which may or may not benefit the landscape and creatures beyond the herd.

Figure 2: Public information about Nofence Grazing Technology posted in Ashdown Forest (Image author's own).

Figure 3: Live data shows the location of each head of the herd. In Ashdown the public can also log on and see the movements of the cows, just as the farmer can. (image: www.profi.co.uk/news/virtual-livestock-fences).



Furthermore, the map influences human perceptions of the landscape and territorial control over grazing areas. Farmers and herders conceptualise the grazing territory based on the mapped boundaries and management practices, reinforcing their sense of ownership and stewardship over the land. Similarly, the cows may develop behavioural patterns and territorial associations based on their familiarity with the mapped grazing areas, responding to cues embedded in the landscape and map-driven management practices.

The app and map used to control where cows graze contribute to the production of territory by organising space, guiding resource allocation, reflecting human interventions, shaping perceptual and behavioural responses, and defining territorial boundaries within the landscape. Through spatial management and human-animal interactions mediated by the map, grazing territories emerge as dynamic and socially constructed spaces within the broader landscape. This reflects much of our thinking about maps and how they reflect cultural values, historical narratives, and societal perceptions, shaping how people understand and relate to landscapes.

Maps shape an individual's perceptions of place and identity, influencing how they perceive themselves in relation to their surroundings. Regional maps, for instance, can foster a sense of belonging and attachment to a particular area, reinforcing cultural identities and community bonds. Conversely, maps that emphasise boundaries and divisions may perpetuate social segregation and exclusion, shaping the collective identity of different groups within a landscape.

For our cows, the map does not attempt to represent the territory, but instead, it is the map that creates, defines and redefines their territory. The map creates the landscape for both the cow and the human. It is the map that shapes the land, our relation to it, and our movement through it.

All maps do this, all maps change our relation to the territory they represent. Here though, we and the cows get to see and experience this more clearly than ever.

WORLD WAR TWO CHART MAKERS REMEMBERED

Adrian Webb, Taunton, 6 June 2024

Once in a lifetime the planets align and events coincide, which together make cartographic research so much more significant. One such day, for me, occurred on 6 June 2024.

The aspects were wartime activities mainly in Bath and Taunton, Somerset, in the Admiralty's Hydrographic Department. These places had connections with Nottingham, Exeter, Liverpool, Armadale (West Lothian), Bradford, Cricklewood and numerous ports where Admiralty chart depots were located. It was Bath and Taunton that bore the lion's share of the work of providing Allied forces with an unprecedented number of charts and publications for navigation purposes.

In order to produce anywhere from five to seven million charts per year, instead of the normal figure of one million, the department needed to expand. Thus premises in Exeter were requisitioned, while a new purpose-built chart-making factory was built at a top secret location in the country, that is Taunton. This unique factory designed in the art deco style down to the very last detail by Cyril Jowsey was fully operational by June 1941. It needed to be staffed and hundreds of local people, printers from London and Scotland, ladies from the Ealing School of Art, were recruited to work in this brand-new top-secret facility.

The department's finest hour was undoubtedly the design, manufacturer and dispatch of over 450,000 charts for the D-Day Landings. Sadly only 12 out of the 1,100 civilians in the department who undertook war work received any formal award for their outstanding efforts. This was not unusual, although, in my opinion, regrettable. When the war was over many of the staff were no longer required and had to find new jobs. Many had been pushed to breaking points through the requirements for D-Day. I was blissfully unaware of this and hundreds of other facts and stories when I started researching the history behind 'Churchill's Secret Chart Makers' over 20 years ago.

In May this year, I self-published the story of the staff, buildings, events, and much more, just in time for the 80th anniversary of D-Day. I decided to dedicate this book to all of those war-time staff who received no recognition for their tremendous efforts, who provided charts for civilian and military purposes during the war. But the story does not end there.

Five ladies and gentlemen who worked in the top secret Admiralty Chart Establishment at Taunton during the war were still, thankfully, with us on 6 June 2024. With a combined age of almost 500 years, it was an absolute honour to be able to present them with a signed copy of my book. Accompanied by Rear Admiral Tim Lowe CBE, a retired Chief Executive of the department's successor organisation, the UK Hydrographic Office, we visited these lovely veterans with books and many words of appreciation.

Pictured are **Kath Holman**, who among other things, undertook fire-watching duties on the roof of Creechbarrow House (the Admiralty Chart Establishment at Taunton). **Nancy Berry** who kindly supplied many, many excellent memories of her wartime activities. She, along with other young ladies, worked in the Photographic Department. One of the top secret projects she worked on involved photographically producing images of the coast of Northern France and sticking them together with Sellotape. The work was so secret that she had no idea that these photos would be used a few months later to help guide over 6,000 ships to Normandy on D-Day, in what was the greatest combined military operation of all time. **Doris Cox** joined the department during the war as a young office clerk supporting the work of supplying charts to the Navy. **Cyril Morse** joined the department as an apprentice in 1945 and worked alongside men in the Engraving Department who had worked around the clock and slept on their copper plates because demands were so great for the work they were producing.

Martin Holman, Suzanne Gill, Dr Adrian Webb, Kath Holman and Rear Admiral Tim Lowe.

Dr Adrian Webb, Cyril Morse and Rear Admiral Tim Lowe.

In May this year, I self-published the story of the staff, buildings, events, and much more, just in time for the 80th anniversary of D-Day.

Acknowledgements. I would like to thank Rear Admiral Tim Lowe CBE for supporting the presentations on 6 June. Also Ian Coleby and Rose Birley for helping me produce my book *Churchill's Secret Chart Makers*, which is available from the author at www.somersethistory.com or in person from the D-Day Museum, Portsmouth, or Brendon Books, Taunton.


Dr Adrian Webb, Doris Cox and Rear Admiral Tim Lowe at Weston-super-Mare.


Rear Admiral Tim Lowe, Nancy Berry and Anne Doble.

BOOK REVIEWS

Adventures in Maps

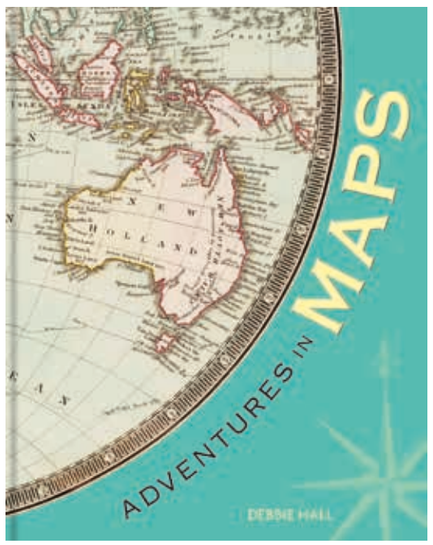
Debbie Hall
Bodleian Library Publishing
£25 (hardback)

Adventures in Maps explores 20 different travels through maps that illustrate them. Sea charts bring to life the 16th-century adventures of Richard Hawkins sailing to South America, the surveys carried out by Captain James Cook and the historic sailing route followed by Naomi James, pioneering solo yachtswoman of the 1970s.

An early strip atlas illustrates the road journeys of Daniel Defoe, and America's iconic Route 66 is shown in an incredibly detailed mid-20th-century map. Also featured are the stories of the Arctic explorations needed to enable a Great Circle route by air over Greenland, the archaeological expeditions of David Hogarth along the Euphrates, and Aurel Stein on the Silk Road, pilgrims making their way across Europe, Thomas Cook's first package tour, the first flight from London to Manchester, and the surveys of the Moon that ultimately facilitated the first landing.

These inspirational accounts are drawn from diaries, letters, memoirs and travelogues: all illustrated with fascinating maps.

Debbie Hall is a Senior Library Assistant in the Bodleian Map Room.



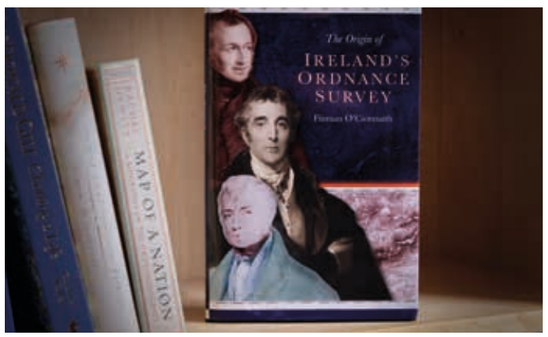
The origin of Ireland's Ordnance Survey: taxation, townlands and topography

Finnian O'Cionnaith
Four Courts Press
£30 (hardback)

The history of the foundation of the Ordnance Survey of Ireland in 1824 (Tailte Éireann and OSNI, respectively) has not been well documented – until now.

For two centuries, the Ordnance Survey of Ireland has recorded the ever-changing relationship between people and the environment, and this book delves into its evolution, covering the politics, technical logic and complex post-Union social issues that shaped the survey. It looks into how it was initially called upon to aid land-based tax reform, leading to disagreement between Irish MPs and the Duke of Wellington. Indeed, it was reported that Wellington used 'very strong language' to get his way – demanding that no surveyor in Ireland should be employed since he considered it a misuse of resources. He was clear he only wanted the natural geography of the country recorded, not features 'of a territorial nature'. The debates and negotiations are presented in a lively manner in this book, punctuated by fascinating images, providing a thorough history of the origins of Ireland's Ordnance Survey.

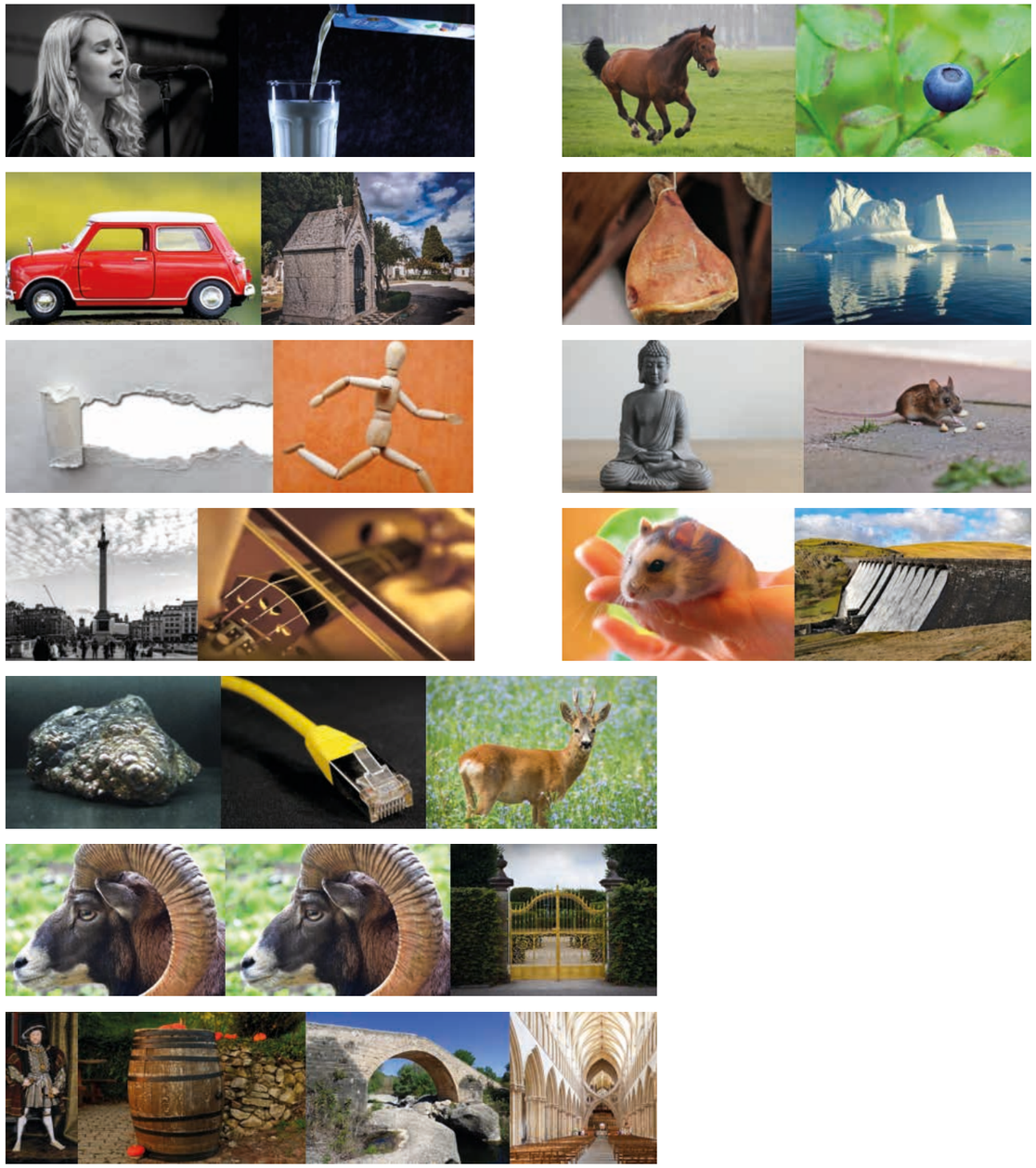
The author, Finnian O'Cionnaith, is a qualified land surveyor who completed his PhD in history at Maynooth University in 2011. He has a keen interest in the early history of the profession and has written several books on the history of land measurement in early-modern Ireland.



DASTARDLY PUZZLE

Our Chief Baffler, David Sherren, has created another fiendish puzzle for you. Can you work out the towns and cities illustrated by the picture clues?

Answers on page 17



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To find out more and to book via Eventbrite, visit www.cartography.org.uk/annual-conference
See also pages 13–17 in this issue of *Maplines*.

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