

Mary Spence

A cartographer worthy of queen's honors



Mary on the croft with her grandfather.

AS A LITTLE GIRL, MARY SPENCE WALKED DOWN THE DIRT TRACK FROM her grandparents' croft in Kincardineshire to make her way to a Scottish village classroom on the cliffs overlooking the North Sea. This is how her life's adventure started, traversing next to a harbor town, and then winding her way to the city. Her imagination and her curiosity were first inspired by the idyllic Scottish landscape she grew up in and engaged with, and she continued to be guided by her imagination and curiosity as she studied the natural world, drawing maps first with colored pencils and later with computer software. Mary dedicated herself to excellence as she continued her journey and made her way to England, where she still works as an award-winning cartographic designer, author, and teacher. Along the way, she made a stop at Buckingham Palace where she was honored with a Member of the Most Excellent Order of the British Empire (MBE) award for Services to Cartographic Design.

As an only child in the Highlands, Mary spent most of her time outdoors with nature and animals. Her primary school teacher would occasionally walk the students to the beach and let them explore the rocks in the bay. Mary was always asking questions and wondering how the world worked, such as whether the same cloud pattern she saw in the spring would appear again the next spring. In secondary school, geography was her favorite subject. Her teacher,

Mr. Gray, would start a class by drawing a map of the country being taught, and then annotate it with the various features he discussed. He introduced group projects where students went off-curriculum to investigate a geographical concept and submit their research at the end of the term. Mary remembers drawing a world map depicting the route of Sir Francis Chichester in real time as he sailed alone around the world in a 55-foot yacht in 1966–67.

Mr. Gray would take his students on field trips, piling them into his dilapidated car to go exploring. They studied the conglomerates on the beach at Stonehaven, the line of the Highland Boundary Fault just north of town, the Roman camp at Raedykes, the cliff formation at Dunnottar Castle (see photo), and the story of the smuggling of the Honours of Scotland (the Scottish Crown Jewels) from the castle to be hidden in a church to avoid them falling into the hands of the English. This hands-on learning inspired Mary.



Dunnotar Castle, CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=16004464>.
By Eduardo Unda from Aberdeen, UK —

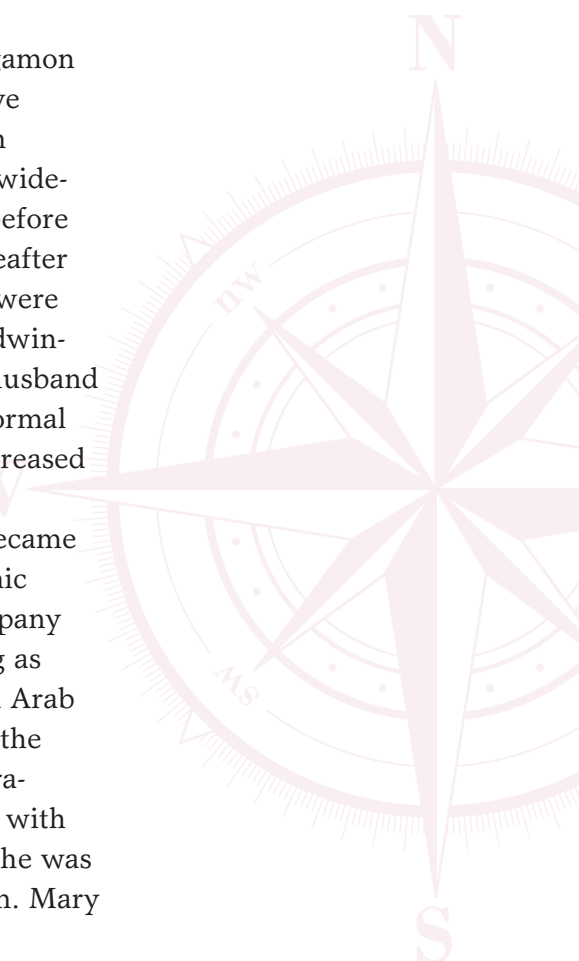
The landscape that inspired Mary's imagination.

Mary went on to earn a degree in geography at the University of Aberdeen and thought she'd become a geography teacher like Mr. Gray. Her cartography tutor, Mike Wood, however, suggested that Mary continue her education in cartography at the University of Glasgow. He had opened Mary's eyes to a wide variety of maps, and he saw her enthusiasm and recognized her potential. When Mary realized that she could possibly have a career making maps, she was eager to learn more. At Glasgow, she took a course by John Keates, a renowned teacher and innovator in the design of thematic and recreational mapping. Through this instruction, Mary would learn amazing possibilities with maps.

Mary started her career as a cartographic editor with Pergamon Press in Oxford, England. Mary saw that there was a pervasive thought in the industry that it wasn't worth training a woman because she would leave to start a family. To counteract that widespread belief, Mary worked for 10 years to establish herself before she had a child, and then returned to work immediately thereafter and continued to work full time throughout her career. Men were typically paid more than women because they were the breadwinners. But in her family, Mary was the breadwinner, and her husband stayed home to care for their children. Since this wasn't a "normal situation," Mary had to speak up and continually fight for increased pay.

Mary then began working for David Fryer & Co, which became GEOprojects (UK), where she was appointed chief cartographic editor and then general manager. During her tenure, the company won many awards for cartographic excellence. While working as chief cartographic editor and preparing an atlas of the United Arab Emirates (UAE), Mary traveled to the University of Al Ain in the UAE, her first time in the Middle East. The professor of geography she was meant to work with was reluctant to collaborate with whom he called "a girl from England" but soon realized that she was a capable project manager and a valuable addition to the team. Mary declined a later opportunity to visit Saudi Arabia.

Determined to get things right, Mary is one to never accept second best. If a map can be improved, she feels she must thus improve it. When she reaches a point where she knows she is struggling to understand a problem, she steps aside and starts asking questions, seeking advice until she cracks the solution. She has worked with whom she calls "outstanding" mapmakers from whom she keeps on learning. In Oxford, she visited the Bodleian Library to study foreign atlases, especially those by the Dutch and German mapmakers whose color combinations looked so different from what she had studied in school and university. She learned innovative



map design from David Fryer, who seemed far ahead of other publishers at the time, and Bob Hawkins, whose Royal Engineers training ensured that Mary had a basic grounding in the serious discipline of mapmaking. His exacting standards laid the foundation for Mary's future success in the industry.

When Mary started her career, maps were produced in two distinct phases by people in two distinct roles. Cartographic editors (usually with an advanced degree) researched, compiled, and designed the map content, and then sent it to a draftsman (without a degree) who handled the technical part of the map drawing. When computers came to the workplace, it was assumed that they would be the tools of the draftsman, and many editors left the industry altogether.

Mary saw the introduction of computers as an exciting development and was determined not to be left out. When Mary joined Global Mapping, another map publisher, as project manager, she finally tackled the program Adobe® Illustrator® after a few frustrating years trying to get a draftsman to carry out her changes. With the help of her new colleagues, she learned how to do basic design work on the computer. She continued to practice and explore software tools, but once she was introduced to GIS, she chose to go "back to school" and get extra guidance from Tim Rideout, another mentor and director of XYZ Maps, a company specializing in digital cartography, aerial imagery of Scotland, and GIS software. Becoming a proficient success, she won an Ordnance Survey OpenData Award in 2014.



I came a long way for a young child whose first writing material was a slate and a piece of chalk.

Although Mary was always part of a team that won awards for cartographic excellence, it wasn't until she was able to create her own maps from scratch that she was given free rein to design and develop concepts of world geographies such as the *Dynamic World* and the *Environmental World*, both of which won major awards.



Mary working on the *Environmental World* wall map, winner of the Stanfords Award for Printed Mapping and the coveted British Cartographic Society Award in 2011 and the Best Wall Map 2012 International Map Trade Association award.

Mary uses a wide variety of software for different map scales and design requirements. Sometimes it can be hard to remember how she achieved certain effects on previous maps, which can be frustrating. She puts it in perspective, though.

It is just another tool—a very sophisticated and time-saving tool, which frees the mind to explore aspects of creativity that the slow production methods of the past may have prohibited. The whole point of map design is deciding what would work, then making it happen, not taking what is offered by default. To my mind, default is merely a suggestion to get you started, not necessarily the best option in your particular situation.





Mary's multi-award-winning educational wall map *Environmental World* highlights the threats human activity places on our planet. The judges who awarded this map the British Cartography Society Cup for Best Overall Map commented that it worked well on all levels, demonstrating good mapping, clarity, symbology, and use of color—plus, it was educational.



An extract showing details of Indonesia and environs. Beating out National Geographic and Ordnance Survey among others, Mary was delighted to win the British Cartography Society Cup and commented, "It is a great honor to win these awards in the face of such giants in the world of maps. I can now allow myself the whole weekend to celebrate before it's back to the drawing board first thing Monday morning."

Mary holds her MBE medal that can only be worn at official events when the monarch or her representative is attending. She 'hired' this perfect, posh hat especially for the day. Her family attended the investiture with her. And the best part of Mary getting her MBE—how proud her mum is.



The highlight of her career came in November 2003 when she received a letter from 10 Downing Street, asking "if it was agreeable to her that the prime minister submit my name to the queen with a recommendation that Her Majesty may be graciously pleased to approve that I be appointed a Member of the [Most Excellent] Order of the British Empire." Shocked, Mary reread the letter until it became real.

Needless to say, it was agreeable to me. Then it had to be kept top secret until the New Year's Honours List becomes public, but my family were there when I opened the letter and my son asked if I had seen a ghost! And, of course, I told my mum.

The day itself was a blur of excitement from getting into the taxi at the hotel and saying to the driver, 'Buckingham Palace, please,' then the investiture itself which I can scarcely recall, followed by afternoon tea at the Ritz. Oh, and the hat! It was Prince Charles who presented my MBE, and he asked if maps were not all made by computers nowadays, to which I replied that the computers needed someone to tell them what to do, or something equally corny.

Mary recalls that "for weeks afterwards, I could not recall the detail of the day, but I visited the Palace as a tourist the following year and retraced my footsteps."

Mary received many congratulations from the cartographic world, including a personal letter from the director general of the Ordnance Survey thanking her for her enthusiasm and promotion of the discipline.



However, as a career move, it was a nonstarter. One chap went so far as to say I was now unemployable—'no one is going to take on someone with an MBE because they will think you are after their job,' he said. Maybe so, but I was now at a stage in my career where the recognition for my skills and ability has kept me engaged in producing a wide variety of maps with there being no sign of demand for my services slowing down. Perhaps he was jealous.

Mary was president of the British Cartographic Society from 2006 to 2008 and sits on the council as a design consultant. As an active member of the Programme Committee, she is involved with the annual symposium, Better Mapping seminars, and Restless Earth Workshops for secondary schools. She was also a guest lecturer at Oxford Brookes University when it ran its cartography courses and in 2017 spent an afternoon with topographic science students at Glasgow University talking about map design and assisting them with their dissertation maps.

I firmly believe that interest in maps can start very early. I visit primary schools telling children about the wide variety of different maps that there are and get them drawing their own maps.

Mary is a Fellow of the Royal Geographical Society and has coauthored and published two editions of *Cartography: An Introduction*—a practical guide to designing better maps, aimed at those starting out on the mapmaking journey.



Mary, center, works with primary schoolchildren to draw maps.

Mary hopes to influence next-generation computer technicians who are making maps. "GIS has all the tools required to make superb maps, and cartographic principles can enhance GIS output to provide a more meaningful map that communicates its message efficiently and effectively. ... Cartography will become a niche expertise. ... The results can be catastrophic, but so long as there are people who find those as acceptable, then they will prevail," she says. "However, I think there will always be a place for a well-designed, informative, and attractive map, whether it be in print, online, or on a smartphone."

She encourages young women to pursue their dreams to the best of their abilities.

Fight for what you know is right, and do not undersell yourself. If you don't already possess a skill, learn it. Keep trying and keep improving. You will get there.

