Calafia

The Journal of the California Map Society

March 2024

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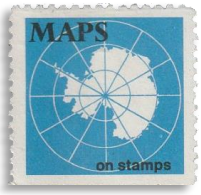
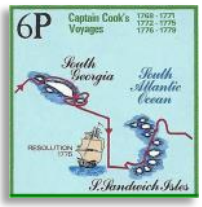
ISSUE THEME

Maps on Stamps





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President's Letter

Ronald S. Gibbs, MD

Dear Society Members and Friends,

In January 1820, two European expeditions sailing farther south than ever before first reported the world's seventh continent—Antarctica. Thaddeus von Bellingshausen, leading a Russian expedition, recorded "an ice shore of extreme height," and British Royal Navy officer Edward Bransfield noted "high mountains" during a mapping voyage.[1] In the ensuing hundred years, Robert Falcon Scott, Roald Amundsen, and Ernest Shackleton led heroic expeditions of discovery to Antarctica.

On modern maps, Antarctica has a land mass roughly 1.5 times the size of the conterminous United States. The Antarctic Peninsula, jutting north towards the southern tip of South America, is the most accessible part of the continent (*Fig. 1*).

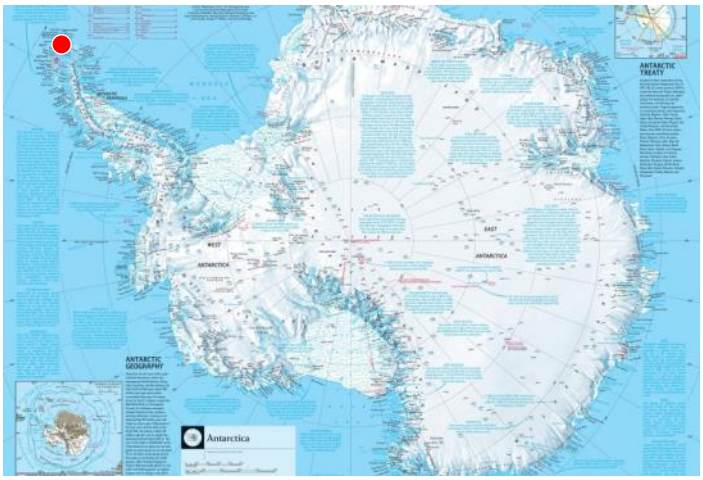

Figure 1. Antarctica Wall Map. Image courtesy of the National Geographic Maps Store.

Especially for those of us interested in maps, a voyage to this remote and far-off land is irresistible. This past December, Jane and I completed a years-long quest to the southernmost continent. We sailed across the Tropic of Cancer, the Equator, and the Tropic of Capricorn. In Antarctica, we were rewarded with seasonably good weather (temperatures not dropping below 30°F during this summer month in the Southern Hemisphere), often clear skies, calm seas, and magnificent views of majestic mountains, bays, and straits. We saw the world's largest iceberg, A23a, three times the size of Manhattan Island, and hundreds of penguins and dozens of whales. Our farthest point south was 64.95 degrees south latitude, still about 100 miles from the Antarctic Circle. On board our ship were four scholars who provided superb lectures on Antarctica history, geography, and animal life. One of the speakers, Dr. Bob Headland, has graciously agreed to be a speaker at our March CMS meeting. As a personal treat for Jane and me, we found out in Antarctica there is a Gibbs Island, only 22 km2 (*Fig. 2, with Inset*). It was first charted by this name in 1825 by James Weddell, for whom Antarctica's Weddell Sea is named.[2,3] I tried to determine the namesake for Gibbs Island but could not uncover this anywhere on the web. I am certain it was not named after any of my ancestors.

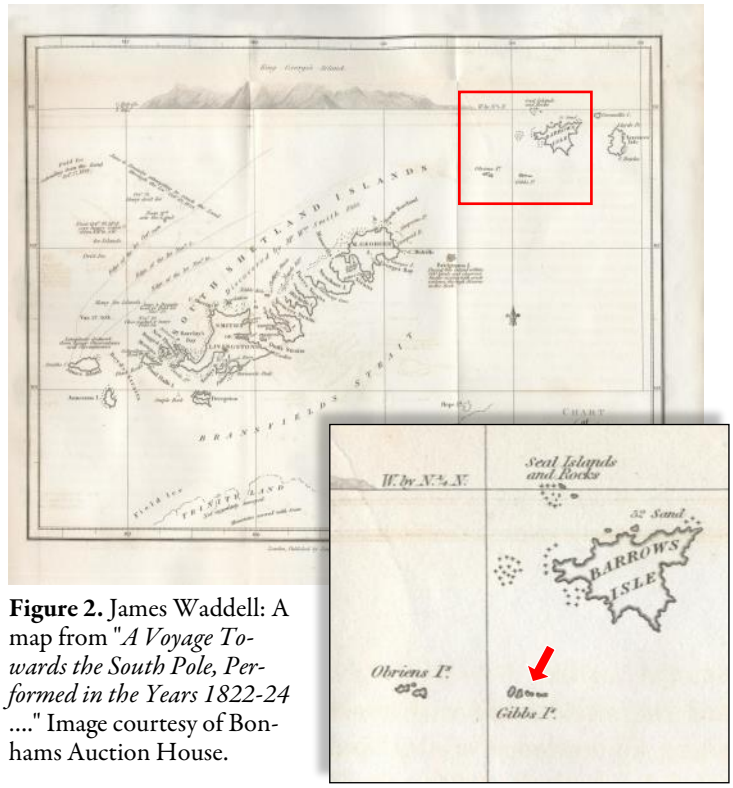

Figure 2. James Waddell: A map from "*A Voyage Towards the South Pole, Performed in the Years 1822-24* ...." Image courtesy of Bonhams Auction House.

For all readers of this letter, I wish you similar thrilling times on your travel quests.

This year also marks a time of important transition for the California Map Society. After ten years as Editor of *Calafia,* Juliet Rothman will be stepping down at the end of the year. Juliet's skills, energy, devotion, and dedication took our society's publication from a small newsletter to its current handsome, sixty-page format. It is now one of the premier map journals internationally. The society is delighted to announce that we have a new editor, Eleanor Bigelow, who will become editor with the spring 2025 issue. As another transition, Fred DeJarlais has announced his retirement from the California Map Society Board of Directors, on which he has served for thirteen years. Fred has done just about everything for the society, serving as President, VP for Membership, Publisher for *Calafia,* Board Member at Large, and all-round keeper of the institutional memory. We are most grateful that he will remain the publisher of our journal.

Continued at PRESIDENT, page 3

PRESIDENT, continued from page 2

The success of the society relies on the great energy and creativity of our board and members. Once again, I express my appreciation to all for your achievements and for the honor of serving as president.

A final note: We have not increased dues since 2012. Inflation dictates that we put through a modest dues rate increase in our annual billing cycles in April and in September. Dues increase will not be applied to those members who have already paid their dues for the April annual billing cycle. The new dues structure:

Student:	$15
Retired:	$40
Regular:	$55
Patron:	$135
Life:	$750

Best wishes,
Ronald S. Gibbs, MD

Endnotes

[1] Royal Museums Greenwich, Exploring Antarctica—a timeline. https://rmg.co.uk/stories/topics/history-antarctic-explorers# (accessed January 25, 2024)

[2] Gibbs Island, Antarctica. https://keybiodiversityareas.org/site/factsheet/29461 (accessed January 25,2024)

[3] Gibbs Island. Australian Antarctic Database Centre https://data.aad.gov.au/aadc (accessed January 25, 2024)

Editor's Note

Juliet Rothman

With each edition of our Journal, I find myself enjoying sharing the wide variety of interesting and unusual articles we have included for your enjoyment and learning very much—and this edition's selections are truly representative of so many, varied areas of mapping and cartography! Our theme is very unusual—cartophilately—maps on stamps, whose times, locations, and nationalities so clearly illustrate so much of our history, our interests, and of our politics. They are truly "in the moment"—the moment of their production! Our partner in the production of the theme articles are members of *The CartoPhilatelic Society*; Stuart Hamilton, who provided an introduction to the field, David Wolfersberger, in Part I of a two-part article, provided stamps, exploration history, and maps of South Georgia and the South Georgia Islands, and Hans den Hartog, who, in a unique article, discussed maps with monsters on stamps!

We visit locations of fiction book stories with Susan Straight, Gulliver's Kingdom with Bill Eaton, the Farnese Atlas with Leonard Rothman, the naming and renaming of Lake Tahoe on maps with Sierra Sarkison, the rebirth of paper road maps with David Smollar, and explore Russian and Ukrainian geography with Heiko Mühr. With Grant Kaye we learn the intricacies of three-dimensional wooden mapmaking using a large-scale CNC router driven by digital terrain model software. Nathaniel Bernstein shares a Favorite Map, a railroad map of San Francisco, which presents the present—and also tries to map future developments of the city—some right on target and some way, way off!

We read biographies and the interests of mapmakers of yesterday, today, and tomorrow: Evan Thornberry, the new Head and Curator of the David Rumsey Map Center at Stanford University, his interests, and his plans for programs and development of the center; the new book and work of our longtime member, Judith Tyner, specializing in the area of female cartographers, in our Meet our Member section; the mapmaking experiences of Agnes Woodford, an early female mapmaker; and the career, website, and map interests of Patrick McGranaghan, the creator of MapPorn on Reddit, with Emily Yang. Our Apps for Maps features the Leventhal Map Center's Atlascope, presented by Ian Spangler.

Our book reviewer, Leonard Rothman, shares details of *The Globemakers: The Curious Story of an Ancient Craft*, by Peter Bellerby, to begin to prepare us for the theme of the Fall 2024 edition of our Journal: globes and globemakers. If this is a field that interests you, please consider contributing an article for our Journal—it's a broad subject with many possibilities, and a wonderful opportunity!

After several wonderful years as your Editor, I will be retiring from this position after the Fall 2024 edition of Calafia. I have absolutely loved developing and working with the journal and with all of the CMS members! I have learned so much, had so many adventures, met so many interesting people, and made so many new friends! Reaching out to authors, reading and learning so many interesting things, visiting museums and map centers and collections, and being a part of this warm and wonderful organization has really meant a great deal to me. It has been a sincere pleasure. I shall miss all of this—but I know that the new editor, Eleanor Bigelow, will be equally dedicated to bringing new ideas and information, expanding each of our knowledge in the area of cartography, geography, and map creation, and developing new areas of interest for us all.

Fall 2024 issue:
Globes & Globemakers

Tributes and Transitions

Ronald Gibbs, Leonard Rothman, & Thomas Paper

For the past ten years, Juliet Cassuto Rothman has served as the editor of *Calafia* and Vice President for Publications. She has asked to step down at the end of 2024. When she began, our society's publication was a small newsletter. Now, it is among the premier cartography journals internationally. Working with Fred DeJarlais as publisher, Juliet has taken our journal to its current, first-class format of sixty pages. Each issue is a handsome work, beautiful to look at, and exciting to read. Juliet has been energetic and devoted to lining up authors for the feature articles and of the recurring features. Issues also include recaps of the Northern and Southern California Meetings as well as of the Bay Area Map Group (BAM) and Greater Los Angeles Map Group (GLAM). Juliet's dedication is legendary. She has carefully recorded the proceedings of meetings and documented them in photographs, persistently worked with authors to get these features on time and honed the drafts with her editor's fine eye. Personally, Juliet is a dynamo, kind, caring, and compassionate.

Juliet was born in Chicago, Illinois on January 21, 1942. Her parents had emigrated from Italy in 1939 when Mussolini promulgated anti-Semitic laws. They arrived in Chicago, where they lived until 1946. At home, they spoke only Italian, and that became Juliet's first language. The family then spent a year in Italy, but because work prospects were limited, they moved back to the United States, this time to New York City. Juliet enrolled in the New York public schools. She was a fast learner, and English became her second language. She was so good at it that she worked as a proofreader and translator for *Colliers* and *American Encyclopedias* from 1956 to 1962. She was also the interpreter for the Secretary General of the Rome Summer Olympics in 1960.

Juliet met Leonard Rothman, Past CMS President, at Tufts University in Massachusetts. She graduated with a B.A. in English & Sociology and went to the University of Pennsylvania School of Social Work. Juliet and Len married in 1964 after his second year in medical school. Juliet left Penn after one year and worked as a social worker in New York and Boston until Len's graduation in 1966. They had three children between 1966 and 1973. She did her second year of graduate study at Hunter College School of Social Work and graduated with a Master of Social Work in 1973. Her specialty was Child Welfare both in New York and Boston. She also received a Certificate in Interior Design from The New York School of Interior Design in 1971.

In 1973, they moved to Annapolis, Maryland, where they resided for the next 25 years. During the first sixteen years, Juliet was a mother and wife, Girl Scout Leader, Cub Scout leader, Religious School Instructor, and Bereaved Parents U.S.A. Group Leader. In addition, she worked as a consultant social worker and Patient Care Planning Coordinator at five nursing homes. Even more, she worked for the Multiple Sclerosis Society, visiting clients in their homes. Annapolis is home to St John's College, one of the "great books" colleges in the country.

Naturally, she enrolled in four intensive summer programs and received a Master of Liberal Arts. Subsequently, she enrolled at American University, Washington, D.C., and received a Ph.D. in Philosophy in 1990. She was an Assistant Professor of Social Work at the Catholic University School of Social Work from 1990-1999 and has also been on the editorial board of two professional journals for many years.

One of her major interests and specialties is medical ethics. In 2013, Juliet felt that there was much missing in her knowledge of Judaic History. Accordingly, she enrolled in a course in Jewish Studies at the Graduate Theological Union in Berkeley and received a certificate in Jewish Studies.

Juliet and Len's son Daniel died during his senior year at college from a swimming pool diving accident in 1992. This tragedy affected them significantly—and still does. They continued to live in Annapolis for another five years. Juliet and Len always planned to move to San Francisco after Len's retirement from practice, and they did so in 1998. Juliet has been very involved with her grandchildren, and Len and Juliet have always gone to visit the families in Los Angeles for celebrations and get-togethers.

Juliet continued in academia as soon as she arrived in San Francisco. She taught social work practice at California State University, San Francisco for two years. Her main academic endeavor was as a full-time faculty member at the University of California at Berkeley for 16 years in the Schools of Social Welfare and Public Health and the University of California, Berkeley/UC San Francisco five-year college-medical school program. She was always a very popular and award-winning teacher. During her 25-year career, she was a sought-after speaker for social work and medical ethics seminars throughout the United States. Juliet wrote six textbooks while at Catholic University and at UC Berkeley. She has also written five general interest books. During the last ten years, it has brought her immense gratification to serve as the first Editor of *Calafia*.

Currently, Juliet is employed by the San Francisco Department of Aging and Disability Services as a connector, consultant, and lecturer for the Community Living Campaign. Since 2018, she has served on the San Francisco Department of Human Services Advisory Council. Her community service has also included being a Board of Elections poll worker in Maryland and then in San Francisco, a docent for 20 years at the California Academy of Science, and a docent at the Marine Mammal Center in Marin County.

Recreationally, she paints almost daily with watercolors, participates weekly in an Italian Language Discussion Group, and hikes four miles a week. She has been a world traveler since age 10. A voracious reader of fiction, she belongs to the American University and the Older Women's League book clubs. Her interests are never-ending. She is now studying Japanese online. She writes with ease, frequently composing poems. Juliet has regularly sung in choruses since her college days. Juliet has been a devoted wife, mother, grandmother, aunt, and friend. She appreciates life to its fullest and has always planned adventurous United States and world vacations. Husband Leonard gives the testimonial: "Juliet is always making my life richer, more than I could ever describe." For all her friends and colleagues at California Map Society, we echo those cherished feelings and express our heartfelt gratitude.

We are so grateful to announce that stepping into the editor's big shoes will be a very accomplished member of the California Map Society. Eleanor Bigelow is excited to work with Fred DeJarlais on *Calafia*. She wishes Juliet Rothman continued good health and many productive years ahead. Eleanor graduated from the University of California, Berkeley, with a degree in English Literature. She is excited to put her education to use in the journal. Eleanor lives with her husband, Tom Paper, Vice-President for Northern California, in San Francisco, where they raised two children who are now in college. Eleanor volunteered at multiple schools throughout her children's lives and served on the board at St. Luke's School. She currently serves on the UC Berkeley Bancroft Library Council. Eleanor is passionate about the environment and has helped fundraise for the Environmental Working Group, the Center for Food Safety, and Soil Centric. Prior to that, Eleanor enjoyed a career in the San Francisco investment banking world at Montgomery Securities and then at Robertson Stephens.

Also, at this time of transition, we note that Fred DeJarlais will retire from the CMS Board of Directors after thirteen years of incomparable service. Fred has been, in many ways, the heart of the society. He has been President (2011-2013), Vice President for Membership, Membership Committee chair, long-term publisher of *Calafia*, and Member-at-Large of the Board of Directors. Fred has an extraordinary knowledge of society and its by-laws. Whenever a question arises about institutional history or procedure, there's always one person to go to: Fred! To a great extent, the growth of CMS membership is a result of his energy, insight, and organization. He has kept the society rolls up to date, traveled to meetings to staff the membership booth, and personally sought new members and strategies for members. Fred has worked tirelessly. We are grateful that Fred will remain *Calafia's* publisher. In his leadership role, he has worked with Juliet to expand the journal and increase advertising.

On behalf of the California Map Society, we express our heartfelt gratitude to Juliet, Eleanor, and Fred.

Winter SoCal Regional Meeting Recap
(A teaser!)

This virtual SoCal regional meeting, delayed from Fall 2023, was chaired by Vice President Courtney Spikes and opened by CMS President, Ron Gibbs.

Evan Thornberry, the new Head and Curator of the David Rumsey Map Center provided an overview of upcoming events and lectures at the Map Center, noting the annual CMS and Rumsey Center's Student Exhibition Competition, and mentioned the Center's 8th Anniversary celebration on April 1, 2024. He also described a few upcoming events scheduled for 2024 at the Center, including:

April 2: Beyond the Pillars of Hercules: A Short History of Maps in Video Games and Virtual Worlds

May 15, Virtual Sites of Maps Online exhibition opening.

May 17-18: Paper Worlds: Urbano Monte and the Global Renaissance workshop.

September: Exhibition titled Charting the Rubble: Devastation and Rebuilding from Disaster.

Bob Headland described The Non-Existent Islands of the Southern Ocean, discussing the exploration of 19 Antarctic islands shown on maps but that do not exist. He proposed that imaginary islands might be glimpsed and mapped because of icebergs, pack ice, debris piles, poor visibility, mirages, clouds, volcanoes, navigation errors, and flotsam. He showed some of these non-existent islands in context with known islands in the Southern Ocean.

Suzanne Knecht's talk was entitled *Around the World with Nightwatch 1995-97*. She described and provided a photo essay on her around-the-world voyage on a 42-foot sloop, Nightwatch, while using a sextant, nautical charts, and GPS and encountering challenges with her autopilot. She shared a myriad of photos and cultural experiences from global ports. Her book about these travels is entitled *Nightwatch: Memoirs of Circumnavigation*.

Chet Van Duzer's talk discussed *Imagined Territories around the South Pole*. He noted the imaginary Southern Ring Continent depicted on early globes and maps and provided an overview of historical perspectives on the Southern Hemisphere. Special attention was given to Johannes Shoner's globe and the depiction of the Southern Continent, including the attempt by some observers at that time to connect the summertime flooding of the Nile to water flows from the Southern Continent.

A more expansive discussion of this meeting will be provided in the Fall issue of Calafia, along with a recap of our scheduled NoCal hybrid meeting at the David Rumsey Map Center on June 29, 2024.

Fred DeJarlais

CMS Education Fund

The California Map Society Education Fund was established in 2014 by the Society to sponsor programming at the David Rumsey Map Center at Stanford University. As part of our second 5-year funding drive, the Fund will sponsor a guest curatorial program at the Rumsey Center. The first exhibition, "Segmented Cities: Tracking Inter-Group Conflict and Co-Existence," was presented during the summer and fall of 2023. Stanford third-year undergraduate Arjun Maheshwari was the winning student curator.

We are two-thirds towards our fundraising goal for this new five-year term. Several major donors have contributed. We encourage other Society members to extend their generosity and help us to continue this worthy program. We hope that members who have yet to contribute to the Fund will make a financial commitment to the program.

Sponsors of the Education Fund include:

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John Fleming
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Walter Schwartz
Julie Sweetkind-Singer
Bill Warren
Amy Worth
Juan Ceva
William Eaton
Anthony Farndale
Ron Gibbs
Robert Graham
Philip Hoehn
Wally Jansen
Barbara Keck

The Society is grateful for our contributor's support of this important program. Please consider adding your name to this very special list by making a donation to the Fund!

Patrick McGranaghan: surveyor, cartographer, and creator of MapPorn on Reddit

Interviewed by Emily Yang

MapPorn, an online community within the Reddit platform, is a treasure trove of maps of all kinds from all parts of the world. These user-uploaded maps illustrate cultures, ideas, statistics, terrain, populations, and real or imaginary features—anything that can be mapped can be posted on the MapPorn website.

[Emily] *When did you first discover your fascination with maps? Was there a particular map or theme that started it all?*

[Patrick] Growing up, I did a lot of road trips with my parents. We would drive to Grandma's house and move around a lot. I would help my dad navigate, following lines on the map. I would just be sitting in the car for hours while he drove, with nothing to do. It was long before social media, and I would just flip through the atlas and discover new places. I lived in Madison, Wisconsin for a while in the 80s, and Madison is such a mecca for cartography in the United States. I think that kind of rubbed off on me.

What inspired you to create the MapPorn Reddit community? How does the digital and anonymous format enable and shape discourse?

I've been a Reddit user since around 2007. I'm kind of an old-timer when it comes to Reddit, and I remember when there were no subreddits, just one front page. When they introduced the subreddits, there were all these communities with "porn" in their name, like EarthPorn. So, I created MapPorn. I was living in Taiwan at the time and was an English teacher over there. I can still remember that night; it was electric. I don't know why, but I just knew that this was gonna be something big. I didn't put a lot of work into starting it up. I did some of the design work to get it looking the way it is. It grew very slowly. Reddit was still kind of niche. There was no mobile app then, just desktop.

Have you heard of the term Eternal September? It's a situation where there are constantly new people coming in and saturating or diluting the community for better or for worse; it's not necessarily a bad thing. In the beginning, MapPorn was mostly big pictures (10 to 20 megabytes in size) that you could zoom in on and look at for hours. Nowadays, I think 90% of the traffic is on mobile, so people want bite-sized content; they want something that they can scroll through and then move on to the next thing very quickly. And I've made peace with this; the train has already left the station. One thing about Reddit is that you can upvote and downvote content. If you don't like something, you can hide it and don't need to look at it anymore. It's very democratic: you have a vote. I'm the forefather of MapPorn, but it's its own animal. It's like this snowball that rolled down a mountain and became bigger and bigger.

What are some of your best memories of moderating the MapPorn community?

About ten years ago, there was a map librarian in Norway who posted a map (*Fig. 3, next page*) from a Turkish atlas. People were talking about it in Reddit comments and discovered that this was a long-lost, super-rare atlas! A reporter wrote a Washington Post feature about it, and there were some other news articles. And it was all because of MapPorn.

Every once in a while, someone will post a picture of their classroom. Teachers use MapPorn and have it on a projector in their classrooms, which is kind of shocking to me. The name of the community is a double-edged sword. I think it's the reason it initially grew so much: it's irreverent and funny. In 2010, the demographic was young, immature teenage boys. The internet has really grown up in a lot of ways, and there's been a kind of realignment, so the name is getting more risque.

What are your favorite parts of land surveying? What advice might you give to someone interested in exploring a career in surveying?

What I really like about land surveying is that you kind of have a legacy. I work in land developments, and Colorado's Denver area is building lots of apartments, strip malls, and shopping centers. Part of my job is determining the boundaries, figuring out who owns what. It's ambiguous, and surveyors have a kind of philosophy about our duties to the public to perpetuate good property lines. These property lines will be perpetuated for hundreds of years, and I feel like I'm doing something for society in my own way.

It's fascinating. There's a whole grid of surveying section corners and monuments, especially in the west. Surveyors have this whole system that's repeatable and scientific. Have you ever noticed while driving around the city that in the middle of most intersections, there's a survey monument that was set there maybe hundreds of years ago? Sometimes, you'll see guys in yellow vests in the middle of an intersection referring to the survey monument and think, wow, that controls so much of the neighborhood.

When you're looking at maps on MapPorn or out in the physical world, are there certain details, biases, projections, or other characteristics that you've learned to look for as an expert surveyor and cartographer?

I do try to guess what projections are used. I'm kind of snobby. Certain projections are just awful. Yes, Mercator is awful, but there are many others that are awful for different reasons. I like to look at shorelines, too. I love the offset shorelines on engraved maps from the 18th century. I love copper-engraved maps; the people making those were just astonishingly skilled and had to be apprentices for many years. It's a lost skill. Of course, you can do it on a computer very quickly.

I also like to look at the shaded relief. There are many ways to show mountains, like hachuring, or shading, or drawing mountain icons. It's been a really difficult problem for hundreds of years to indicate types of terrain. It's really fun to try to do it and to see how difficult it is.

I also like to look at borders, which contain a lot of subtle hints about what the cartographer believes.

There's a lot of subtle aesthetic beauty in fonts, too. I like to look at the hierarchies that can be created with fonts. For example, I like to see how they indicate North America, America, and Canada in different font sizes or styles. A good cartographer makes it all run together clearly.

So I could just look at a map and go on and on. Cartographers have to make choices all the time. People think that maps are some scientific, pure truth, but they're really not. To modify a famous quote, all maps are wrong; some are useful. The only real map is under our feet.

I like maps that connect disparate datasets and mesh them together in ways that make discoveries. We already have the data but haven't yet meshed it together. And there are just so many discoveries waiting out there!

Patrick McGranaghan is a land surveyor in Denver, Colorado. He started the MapPorn subreddit in May 2011 while living in Taipei, Taiwan. In his free time, Patrick is a geographic pilgrim, visiting places like the Mason-Dixon line and all seven corners of Colorado. Patrick also runs the Twitter account @mapporntweet. He can be reached on LinkedIn at https://www.linkedin.com/in/patrick-mcgranaghan/.

Emily Yang is the newest board member of the California Map Society. She particularly loves non-north-up maps and those featuring sea monsters, phantom islands, or a literal Red Sea. Emily has been a longtime fan of the MapPorn Reddit community and also contributes to the Old Maps Reddit community.

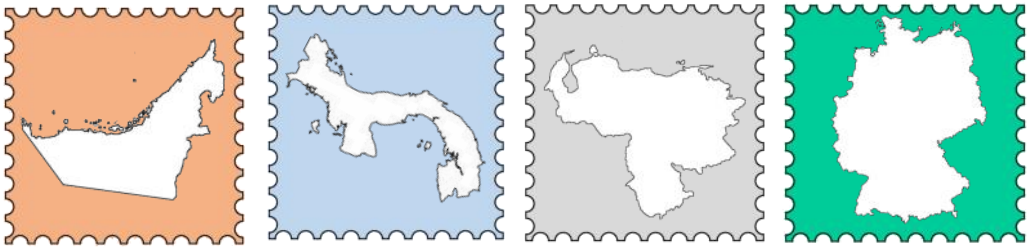
Figure 1. Patrick McGranaghan

Figure 2. Patrick's hand-drawn map of Europe. http://tinyurl.com/2ztcckhr

Figure 3. Rare map of Africa that MapPorn helped discover. http://tinyurl.com/3xh2jcfh

CARTO-QUIZ

Name the Country
(images may be slightly rotated)



Gulliver's Kingdom?

Bill Eaton

Jonathan Swift was an eighteenth-century Anglo-Irish writer renowned for his satirical writing. His most famous work, "Gulliver's Travels," was published in 1726 and describes the adventures of Lemuel Gulliver, shipwrecked on a fictitious far-distant island named Lilliput, whose inhabitants were all six inches tall. Although usually read as a children's fable today, contemporary readers recognize it as a satire on the then-monarch, King George I of Great Britain, and other political figures of his epoch.

Lilliput was a small kingdom, about 20 miles in size, located vaguely where van Diemen's Land or Tasmania (only discovered about 80 years previously) was located.

Although the island of Lilliput was pure fiction, it has an interesting historical twist. The antipodes of Lilliput emerge roughly at a village called Saint-Bélec in Brittany, Northwest France. If you travel to the village and simultaneously go back in time about 4,000 years to the early Bronze Age (2150-1600 BCE), you will come across what may be the oldest map in the world that can be specifically matched to an existing territory.

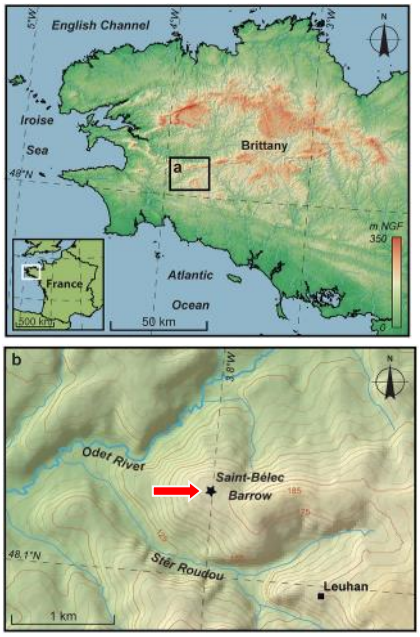


Figure 1. Regional location map (above) and topographic map showing the barrow (mound) where slab was found. See Reference No. 1 for detail.

Measuring about 6½ by 5 feet and oriented East-West, the stone slab is believed to represent a Bronze Age kingdom or principality about 19 by 13 miles in size—roughly the same size as the fictitious Lilliput. It was uncovered in a prehistoric burial mound in Finisterre (Land's End), in the eponymous French department (province), in 1900 by Paul du Chatelier, a local archeologist. It lay alongside a broken pottery vessel with characteristic Bronze Age markings.

The slab itself was broken, possibly deliberately to mark the end of the epoch of the owner, but du Chatelier was able to reconnect the pieces with concrete. Although curious about the engravings on the slab, he suspected they could be animal or human representations rather than a map. The repaired slab, weighing over a ton, was transported to his private museum, located in his nearby home.

After his death in 1911, the French National Archeological Museum acquired ownership, but left the slab at his home, where it passed into bureaucratic obscurity for almost a century. In 1994, researchers examining du Chatelier's original report noted that the markings described resembled a map, but the location of the slab itself had long been lost. After 20 years of intermittent search, the slab was finally discovered in the cellar of du Chatelier's stately home. This was followed by several years of examination by the museum and other scientific bodies.

Figure 2. *The Saint-Bélec Slab.* See Reference No. 2 for more information

In 2021, researchers using modern geolocation technology and 3D scanning concluded that there was an 80% chance that the slab represented the nearby Odet valley, and included the location of the burial mound where it was originally discovered. More importantly, the engravings had been carved to resemble the terrain of the valley, making it the first known 3D map. Engraved lines follow the course of rivers, while other markings are thought to be symbols for settlements and buildings.

Its early Bronze Age dating makes it the earliest known map in Europe. The slab is believed to show the extent, boundaries, and features of a political entity about the size of the fictional Lilliput. However, despite its similarity in size, it is doubtful that the slab served as a fictional travel guide for Gulliver many centuries later!

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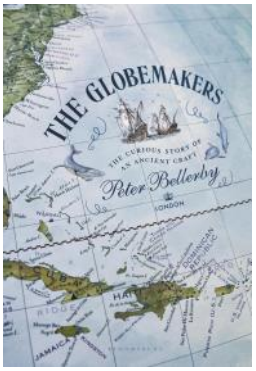
*CMS member **Bill Eaton's** previous article, "The Roman Underground," appeared in the Fall 2023 edition of Calafia.*

Book Review



The Globemakers: The Curious Story of an Ancient Craft. Peter Bellerby, Bloomsbury Publishing, 2023, Hardcover, 7.45" x 10.75", 240 pages. $27 ISBN: 978-1639731565

Reviewed by Leonard A. Rothman, M.D.

This beautiful hardcover 240-page book addresses the production of custom artisanal map-globes (which will be called simply "globes" in the rest of this review). It is the story of the author's cartographic quest, and the development and creation of the production process in a factory of his own design, located in North London, England. A 20-item basic glossary of terms is provided as an initial guide. This very helpful list clearly includes the armillary sphere, axis, calotte, cartouche, celestial globe, constellations, ecliptic, equator equinoxes, globe, gore, horizon band, hour dial, International date line, latitude, legend, longitude, meridian, roller bearings, and solstices. The book includes 120 full-page, close-up color photographs of himself and his employees performing the various steps in the manufacturing process. It is then divided into ten chapters.

The descriptions of the chapters below include the actual titles of each chapter.

Chapter 1 - "HOW IT ALL BEGAN": Mr. Bellerby tells us that, as a child, he had a great interest in the natural world around him. He loved spending time in his father's library studying encyclopedias and illustrated books of the natural world. He was fascinated with the Universe and with map-globes: they stimulated his understanding of the earth's and humanity's relationship to the Universe and, of course, were fun to hold and spin! After schooling, he had a career as a television director and then operated a music and bowling alley venue. He wanted to purchase a globe for his father's 80th birthday, but felt that neither the new mass-produced nor the old globes with outdated maps were suitable, and he so determined that he would build his father's globe, and others, himself. Starting in 2008, he first listed the learning steps necessary to master the craft, and then studied and practiced alone for one year. By 2014, he had sold a few globes, had two employees, and was barely financially stable.

Chapter 2 - "THE ROUND EARTH ROLLS: UNDERSTANDING OUR PLACE IN THE INFINITE UNIVERSE": Bellerby shares with us the history of knowledge about Earth's shape and size, and possibly the earliest Greek globes. He also presents information on the oldest surviving and pre-Columbian globe, created by Martin Behaim in 1492 -94. An illustration of a pre-Columbian map made by Behaim in 1492 for that globe is included in the chapter, but the globe itself is not shown.

Chapter 3 - "HOW TO MAKE A SPHERE": In 22 exciting pages, Bellerby describes the trials and challenges of casting two halves of a 50 cm hollow plaster/resin sphere in two halves of a hollow mold. The process of extracting the two halves from the two molds, we learn, is a trial-and-error brain teaser. Finally, he develops a technique for manually and accurately attaching the two halves to each other.

Chapter 4 - "MAKING A MAP OF THE WORLD": This chapter begins with a short history of Vincenzo Coronelli's globes, and the oldest known map in the world, a pre-historic painting of animal and human figures, and possible star maps, in the Lascaux caves of southwestern France. Bellerby wanted to create his own globe, but then recognized that he needed to learn cartography first! He also realized that he had to choose a particular font for his map, and design a cartouche. Software had to be invented to morph the rectangular map into gores, and the gores each had to be cut by hand. The politics of custom globe-making related to boundary changes, he found, depended on the destination of the globe. Finally, the proper paper and ink for wetting and stretching had to be selected.

Chapter 5 - "THE (NEAR) IMPOSSIBLE TASK OF GORING": (*Fig. 1*) In this chapter, Bellerby mixes history with his development of a technique for applying paper gores to the globe. He discusses Harrison's longitude clocks, Ptolemy's instructions on making a map of the world and 8,000 known

Figure 1. Applying a gore. Image courtesy of Bellerby Globemakers, Euan Myles Photographer.

locations, the world's first printed gores by Waldseemuller, and several acclaimed globes, including that of William Blaeu. He also discusses the development of a process to accurately mark the globes for application of the gores, a visit to the National Maritime Museum in Greenwich, England, for inspiration, and the type of glue and the gluing process he used. He also manages to insert an unrelated, but very interesting, discussion about North Pole exploration in this chapter.

Chapter 6 - "THE HUNT FOR CHURCHILL'S GLOBE: This short (12-page) chapter describes Bellerby's successful hunt for the elusive Churchill, one of several 50-inch 1942 WWII globes produced that year in the United States. One of these had been presented to President Roosevelt, and another to Churchill by the U.S. State Department in 1942.

Chapter 7 - "THE MERIDIAN AND ENGRAVING-WHERE ARE THE FOUNDRIES?" Bellerby writes that he had to search a list of 150 foundries to finally find one in the Black Country(*) that was interested enough in his project to cast a few solid brass meridians for his early globes. The description of the foundry, and the casting procedure, including the lost wax process, is fascinating. The meridian had to be hand-engraved in-house, until he finally found a professional engraver to work with a few years later. (*Fig. 2*)

Figure 2. Fitting a Meridian. Image courtesy of Bellerby Globemakers, Toby Essex, photographer.

Chapter 8 - "THE COLORS OF THE EARTH-PAINTING THE GLOBE": Watercolors have been, and still are, used to paint the printed paper gores once they have been glued to the globe. A skilled painter can produce beautiful, variable depths of color with watercolor paint. Bellerby uses an unnamed modern, durable sealant rather than pure varnish over the paint.

Chapter 9 - "SPINNING THE GLOBE: BUILDING THE BASE": Bellerby discusses the thrill he still experiences while spinning the globes as an adult, and goes on to discuss building bases for globes. This process involves first finding the right dry wood, then the various steps involved in cutting the wood, and actually assembling the bases. Finally, each globe is mounted on its proper base. Here again, he includes an unrelated but fascinating discussion of the atmosphere, glaciers, and London Plane trees.

Chapter 10 - "ORGANIC GROWTH": The final chapter is a review of the factors which enabled the growth of his company to 25 employees, producing 600 bespoke globes a year. He also started to manufacture popular smaller globes, 8-9 inches in diameter, and uses fingerhole-less bowling balls for controlling the steadiness of these smaller globes, mounted on his unique roller-bearing bases. Instagram and Vimeo, the video content website, have been very effective in expanding their customer base. Because of rapidly changing city and country names and national boundaries, Bellerby does not make many globes in advance of orders, in order to send the most current globe possible to the customer.

There are no footnotes, which I feel is acceptable, because Bellerby's historical facts are common knowledge, and easily corroborated. However, it would be helpful if there were a bibliography to include the references, journals, and books used for the historical and scientific information. This is a great read and addition to any map and globe lover's library.

*Black Country is an area in the West Midlands north of Birmingham noted for the soot filling the air from the many factory smokestacks and open-seam coal mines created by the Industrial Revolution in the 18th and 19th centuries.

Leonard Rothman, M.D., is a retired obstetrician and gynecologist and has collected antique maps, atlases, world globes and cartographic literature for over 40 years. He focuses on Holy Land maps, map neckties and war maps. He is also a frequent map lecturer and writer for this *Journal.*

Back To The Future

David Smollar

Motorists have forsaken paper road maps. They navigate now with GPS apps, following instructions from a soothing voice that narrates an electronic dashboard map of any route from point A to point B.

Ironically, the process invokes a "back to the future" element, recalling early 20th-century travel guides with point-to-point (strip) maps and precise logs for reaching B from A by notating roadside landmarks. The "voice" was not one cast from artificial intelligence, but that of a designated passenger/navigator relaying directions, at a time when motoring was largely a group leisure activity for the adventurous well-to-do.

These combination map/log books allowed pioneering California motorists to demystify an otherwise bewildering landscape of unsigned intersections, forks in the road, and sudden dead ends on routes originally laid out for local pre-auto travel. The books proliferated from around 1900 until the early 1920s, when numbered highways, standardized paper maps, and other improvements rendered them superfluous.

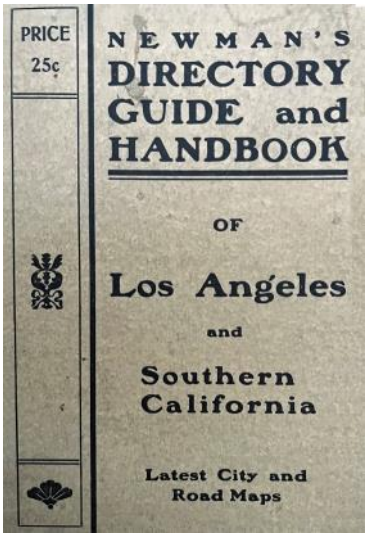


Figure 1. Image from author's collection.

Among the earliest handbooks was a 1903 guide (*Fig. 1*) from Southern California publisher T. Newman for those hankering to attempt the few auto day trips from Los Angeles possible at a time when the cover for the Bekins Moving Co. map for Los Angeles still featured a horse-drawn wagon in front of a storage warehouse, and there was a single car rental agency in the city of 170,000. Eight small maps, not drawn to scale, were accompanied by written logs. For travel from downtown LA to Pasadena, the directions asked motorists to leave the plaza on North Main Street, turn left at "Braun & Co.'s big drug house to Republic Street to New High Street, turn one block to Buena Vista Street where New High ends, which becomes Pasadena Avenue after crossing river."

A mere six years later, in 1909, the Automobile Club of Southern California issued an inaugural tour book (*Fig. 2*) of nearly 400 pages, reflecting a spurt in membership to 600 from only 56 four years earlier. (Ford's 1908 introduction of its economical Model T expanded car sales nationwide.) It included some 100 point-to-point maps with route descriptions, city and state vehicle laws, and advertisements for hotels, restaurants, scenic and cultural sites, automobiles, and motor oils. Interestingly, there were no gasoline brands advertised in this or other early guides. The tour book's introduction promised that nowhere were there greater attractions than in Southern California, "and with this book in hand you may safely give yourself up to the Motorists's greatest pleasure, that of touring."

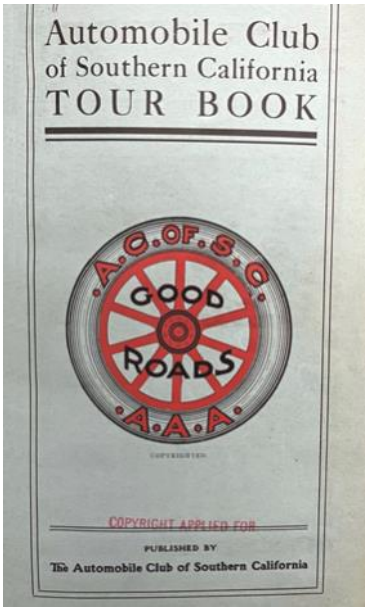


Figure 2. Image from author's collection.

Each map (*Fig. 3*) was carefully rendered, with directions on an adjoining page sometimes linked to mileage readings—odometers having only recently been added to automobile dashboards. The toil required to follow most itineraries is illustrated by the log for the 22-mile-jaunt from Redlands to Perris, in Riverside County: "Leave Redlands corner Orange St. and Colton Ave.; go south on Orange to Cajon Avenue, practically a continuation of Orange. Follow Cajon Ave. to Highland Ave.; turn right on Highland to Center Street; turn left on Center to Crescent Avenue; turn right on Crescent, making first turn to left, passing cemetery to top of grade. At fork in road take middle road and turn onto first road leading to right; continue to end of road. At schoolhouse, turn left going two miles to the first road leading to right after leaving Ordway. Don't miss road at this point...grades as high as 18%." And that's less than half of the description. Whew!

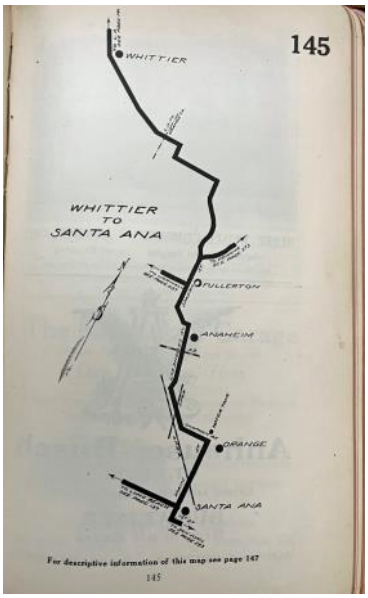


Figure 3. Image from author's collection.

Even with copious explanations, the Club realized that better road signage was necessary in order to encourage more driving and grow membership. In 1909, it placed 400 signs on major thoroughfares in Southern California. By 1920, there were nearly 80,000 ACSC signposts, some of these remaining into the 1970s, despite both the state and local highway departments having assumed the responsibility for marking

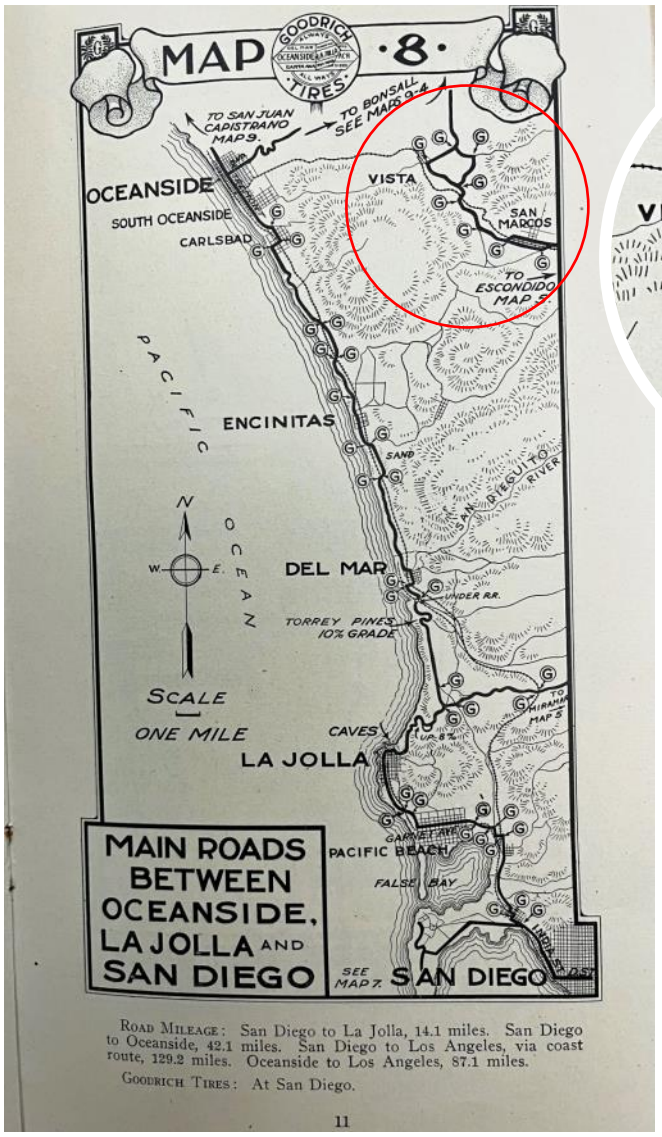


Figure 4. Image from author's collection. Inset added by Publisher.

roads in the 1930s. The B.F. Goodrich Rubber Co. also recognized the importance of signposts, and between 1910 and 1920 planted nearly one million nationwide, as part of its own route book publications. The booklets (*Fig. 4*) had elegantly-drawn strip maps, dotted with encircled "G" symbols, indicating the locations of the company's road markers at intersections, forks, and other spots where motorists needed to pay close attention to routes. Travelers between Los Angeles and San Diego as early as 1912 could avail themselves of 75 "G markers", strategically placed along the coastal route between the two cities.

Monthly brochures (*Fig. 5*) in both 1911 and 1912, titled *The Clutch,* introduced directions for two or three Southern California routes, together with their strip maps and the latest road conditions, in every issue. E.E. Hamilton, of Los Angeles, added his own twist to the 200 strip maps and points-of-interest descriptions in *Hamilton's Illustrated Auto Road Map California Tour Book*, published from 1910 to 1917. As an additional aid for navigators, he placed in every strip map small photos of key landmarks, with arrows pointing to their location along the route, a primitive version of today's Google Street View. As an example, Map 105, the portion of the pre-101 route through Santa Barbara County between Los Olivos and Santa Maria, included six photos at critical junctions where motorists needed to

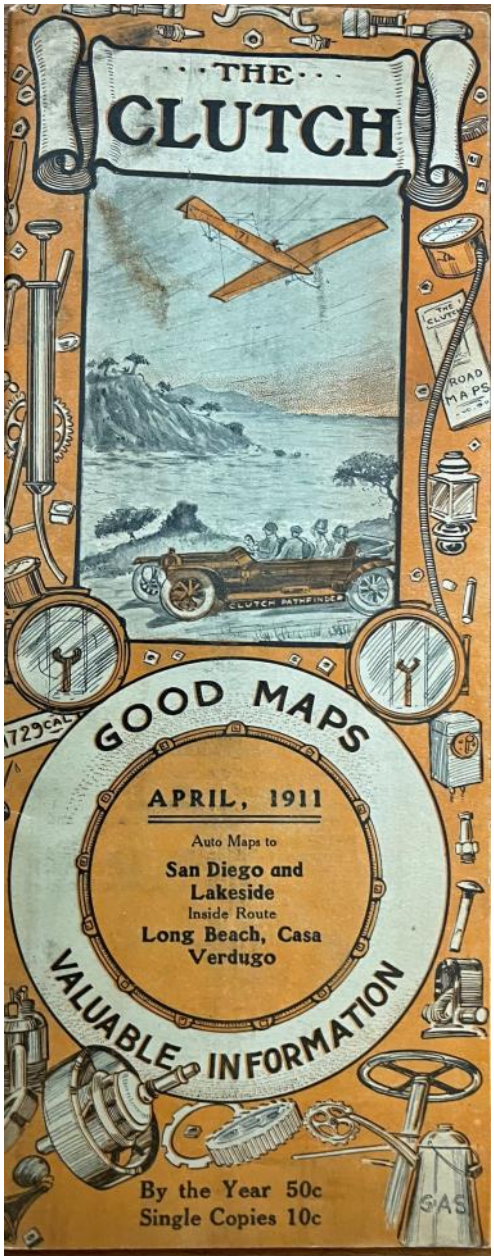


Figure 5. Image from author's collection.

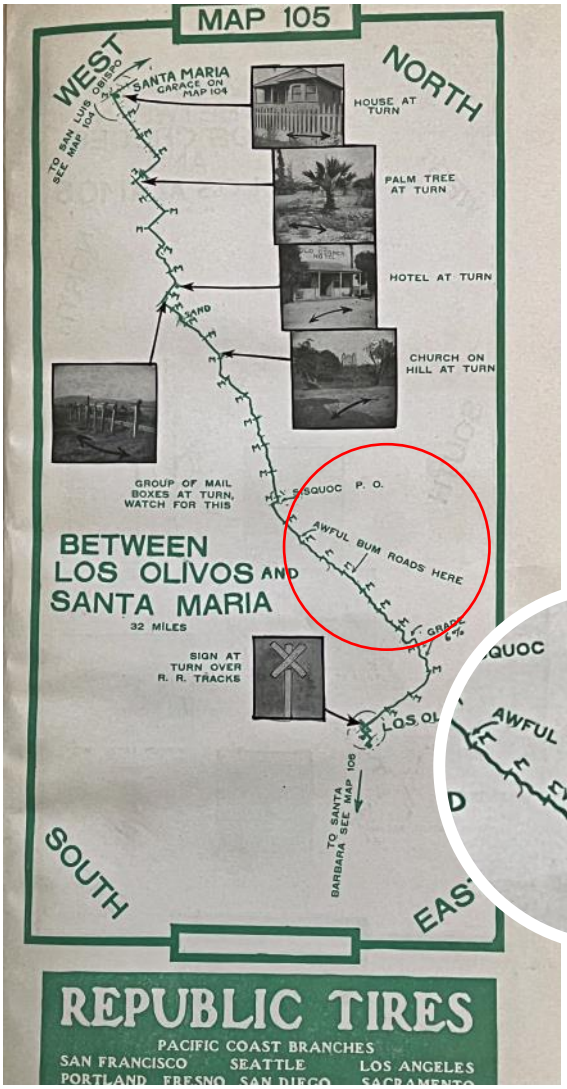


Figure 6. Image from author's collection. Inset added by Publisher. **Note the road description highlighted!**

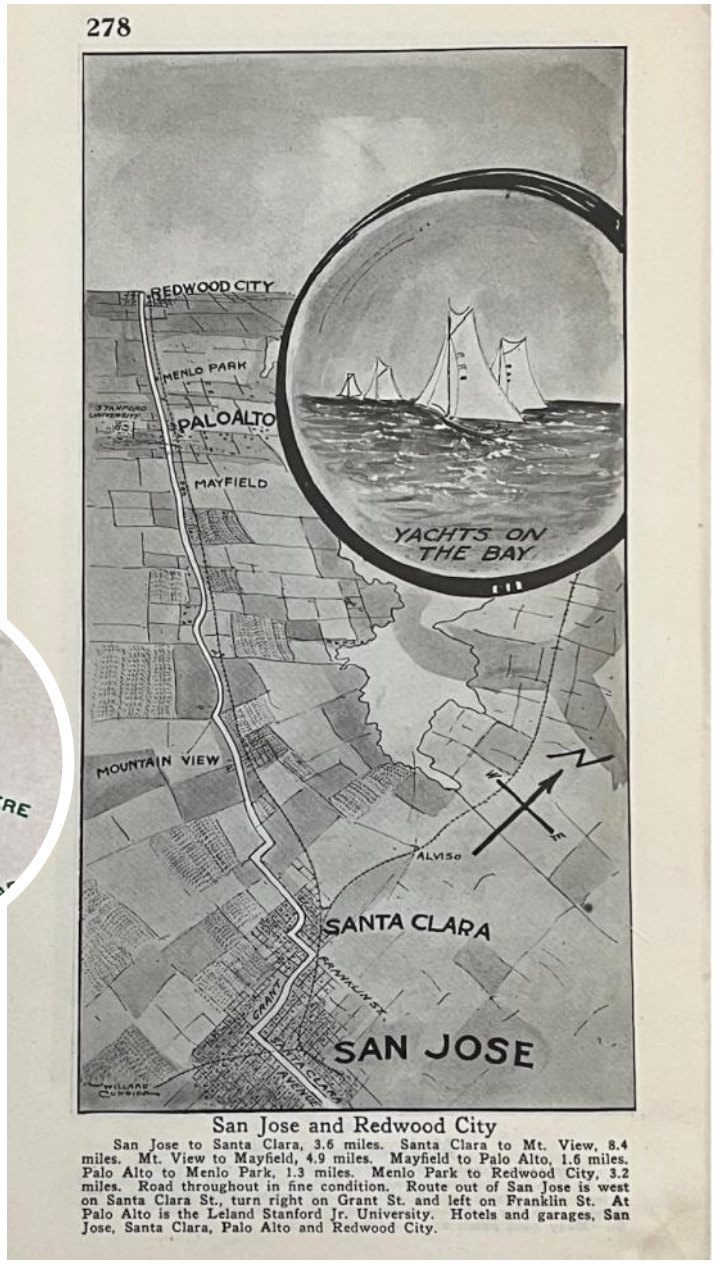


Figure 7. Image from author's collection.

turn left or right: of a house, a palm tree, a church, a hotel, a church on a hill, a group of mailboxes, and a railroad crossing. Every mile on his maps was marked by an "M." (*Fig. 6*)

Bird's eye maps were the specialty of the unique 1914-15 *Panoramic Automobile Road Map and Tourist Guide Book*. Cartographer Willard Cundiff conceived and drew the 200 unusual maps in the Guide Book after "a recklessly enjoyable ride in an aeroplane." Each map highlighted a point of interest, drawn large in an oval inset, as if under a magnifying glass held aloft by a plane's pilot. (*Fig. 7*)

By 1916, surviving California guides such as one from the Fireman's Fund Insurance Co. had transitioned to bound collections of strip maps, with only general information about road conditions included. The Auto Club led the way, producing hundreds of finely crafted strip maps, separately and in intercity route guides. These were shorn of previously included itineraries, as widespread signage, followed by numbered highways, had become the norm. Easy-to-use city and state folding maps from oil companies added to the demise of logs. The spotlight for sophisticated map books with turn-by-turn descriptions had dimmed, only to arise, phoenixlike, in electronic form a century later, with the advent of today's satellite global positioning navigation systems.

San Diego native **David Smollar** is a lifelong map collector and a former staff writer for the Los Angeles Times. A CMS member and frequent contributor to Calafia, David's most recent article, "Road Map Censorship—II," appeared in the Fall 2023 issue.

The Farnese Atlas
The Origin and Evolution of a Myth
Leonard A. Rothman, M.D.

The image of Atlas holding up a sphere, variously presented as a celestial or terrestrial sphere, is a familiar one in Western civilization. It is surrounded by myths and legends, as well as a complex history, which traces its various iterations from antiquity to modern times.

Early Celestial Globes

Celestial globes can be objects of beauty, status symbols, educational tools, or all of these. They can be used to view the three-dimensional relationship between Earth and mythological or empirical objects in the Universe, as well as the relative distance and motion of these objects. Navigationally, they can be used for determining locations at sea. Celestial globes were also used by the ancient Greeks to map heavenly mythology, and it has been suggested that the earlier ancient Babylonian and Egyptian civilizations also had celestial globes, which may have influenced their creation by the ancient Greeks prior to 500 CE, the early beginning of the Middle Ages.[1]

There are only four extant European celestial globes from antiquity. The Kugel globe, the oldest, ca 300-200 BCE, is silver, 2.5 inches in diameter, and has irregularly sized areas for the signs of the zodiac. It was, possibly, part of an armillary sphere. Found near Lake Van in Eastern Turkey, it was acquired by the Galerie Kugel in Paris, and is now in a private collection.[2]

The second globe is a ca 50 BCE—ca 50 CE celestial sphere, held in the Vatican Museum.[3] This slightly irregular ball, possibly composed of solid stone, is spanned by the 12 Zodiac signs on a band, and also has stars scattered over the global surface.[4] Although often not included in other lists, it is presented here due to its age and symbolization of the heavens.

The third is the Mainz celestial globe, a 4.5-inch gold globe from ca 180CE, with all 48 Ptolemaic constellations, and was thought to have been the crown on the gnomon of a sundial. It is held in the collection of the Romano-German Museum, in Mainz, Germany.[5] There is an excellent exhibition of these three globes from the Science Museum "Galileo, Museo" in Florence, Italy, available online.[6]

The Farnese Atlas

The fourth, the Farnese globe (*Fig. 1, Fig. 2, next page*), is carried on the shoulders of Atlas, an ancient Titan god of Greek mythology, and is represented by a marble statue popularly known as the Farnese Atlas. Thought to have been created ca 150CE, it is a Roman copy of a long-lost Hellenistic original. This Roman copy of Atlas, with its celestial globe, was unearthed during excavations near the present location of the Trevi fountain in Rome, in the 16th century. Cardinal Alessandro Farnese (1520-1589) purchased the statue in 1562, and displayed it for many years at Torlonia, his Roman villa. After his death, the statue passed on through generational inheritances to the Spanish Bourbon Dynasty in 1735. Ferdinand IV, the Bourbon king of Naples, installed it in a museum, and it was eventually transferred to the permanent collection of the National Archeological Museum of Naples. The Farnese Atlas statue is 7 ft. (213 cm) tall, including the globe and Atlas, who is slightly crouched over, kneeling on his right knee, supporting the 26-inches in diameter (66cm) celestial globe on his shoulders. The external surface of the globe illustrates 41 or 42 of the 48 classical Ptolemaic constellations in the Universe.[7]

Figure 1. The Farnese Atlas Statue, photographed by the author during a visit to the National Archeological Museum of Naples, 2001

The constellations are thought to be positioned according to the lost star map of Hipparchus (190 BCE-120 BCE), a Greek astronomer and mathematician, the founder of mathematical trigonometry, who accurately modeled the motions of the Sun and Moon, invented a star brightness scale, and cataloged 850 stars. He also noted that distant stars appeared to

Figure 2. The Farnese Atlas Statue: celestial globe (top: front of statue; bottom: back of statue) Photo by the author.

move 2 degrees from their original positions because the Earth was precessing (wobbling on its axis), tipping 1 degree per 72 years, thus making a complete cycle every 26,000 years. His findings were first recorded in 129 BCE, and lost in the 5th-6th century. Researchers recently found his lost star map parchments, which were a palimpsest within the leaves of the "Religious Codex Receptus," the Greek New Testament, in St. Catherine's Monastery, in Egypt's Sinai Peninsula.[8]

According to Greek mythology, Atlas was one of the Titans, giant pre-Olympic gods ruled by Cronos from Mount Orthys, in central Greece. Zeus, born of Titans, but a non-Titan god, wanted power, and fought a war with the Titans. Although Atlas was a cousin of Zeus, he sided with Cronos and the Titans as they fought a 10-year war, the Titanomachia. The war ended with Zeus victorious, ruling from Mt. Olympus. He threw the Titans into Tartarus, a deep cave in the underworld.[9]

Atlas, however, received a different punishment from Zeus for his role as a leader in the war. He was made to stand in the Garden of the Hesperides, on the western edge of the world, to hold up the sky. He was sentenced to keeping the heavens separated from Earth forever, by being the guardian of the mountains/columns that held up the Heavens, or by standing on the sea-bed holding the columns up himself, or by both guarding and holding, depending on the writer's interpretation of the story, such as it appears in Homer's Odyssey (ca 800 BCE) and the work of other poets of that era.[10] Over the many years and versions, Hercules and the Caryatids have also substituted for Atlas by holding up the celestial globe.

Hercules (Heracles), a cousin of Atlas and the son of Zeus, came to gather up and take the Golden Apples in the Hesperides' Garden. The apples were guarded by a dragon, and only Atlas could safely get them. Desiring to change places with Hercules, and to stop holding up the globe, Atlas agreed to help, if Hercules would hold up the sky while he retrieved the apples for him. Suspecting that he was being tricked, Hercules asked Atlas to hold up the sky again, while he adjusted lion-skin cape on his shoulder. Atlas agreed, Hercules then took the apples, and escaped, leaving Atlas once again holding up the Heavens.[11]

There is some modern dispute as to whether the Homeric expression *amphis echousi* refers to the columns (mountains) that keep the Heavens and Earth completely separate from each other, or refers to columns that form a circumference around and connect to Earth, thus forming a vault above it. In most of Greek mythology, Atlas is noted to be holding up only the Heavens, keeping it completely separated from Earth. Therefore, the Farnese Atlas holds up a celestial globe and not a terrestrial one.[12]

A Mercator Connection

Mercator's Preface to his manuscript edition of maps, refers to Atlas:

> *"My purpose is to follow this Atlas, a man so excelling in erudition, humanitie, and wisdom, (as from a lofty watchtower) to contemplate Cosmographie, as much as my strength and abilitee will permit mee, to see if peradventure, by my diligence, I may finde out some ytruths in things, yet unknowne, which may aid to the studie of wisdom."*[13]

In 1570-1574 CE, when Gerhardus Mercator, the most important cartographer of the late Renaissance (1450-1650), finished creating his atlas of maps of Europe, he named his collection Atlas. According to James R. Akerman, an atlas can be a simple reference tool, or by "selection, design and arrangement" can be, as Mercator's is, an important graphic exposition. Akerman believes that naming the Mercator European map collection Atlas is "a suitable metaphor for the god Atlas, because of the complex nature of Atlas mythology, in which Atlas straddles the line between mortals and immortals, and is the holder or beholder of the world".[14]

Figure 3. Atlas and Heracles statues from the collection of the Greenwich Observatory, as seen in Globes at Greenwich. Image provided by permission of the Royal Museums Greenwich. https://collections.rmg.co.uk

Current Representations

The Greenwich Observatory's catalog of its globes and armillary spheres collection notes and demonstrates at least eleven statues of Atlas, or of his "substitutes"—Hercules and the Caryatids. These are dated from the late 16th century to the end of the nineteenth century, holding either a celestial or a terrestrial globe.[15] Two rare anonymous statues, illustrated here and contained in the Greenwich collection, are dated 1651/1725: (1) Atlas wearing a crown and cape, holding a terrestrial globe, and (2) Hercules wearing a lion skin, and also holding a celestial globe. (*Fig. 3*)

Twentieth-century celestial or terrestrial globes on statues of Atlas are quite common. There are also very large 19th and 20th century Atlas statues on or in the front of buildings, which have been photographed, and may be seen on the internet.[16] The 20th-century classical statue of Atlas holding a 10cm terrestrial globe on his shoulder is from my own collection. (*Fig. 4*)

In Summary

The Farnese Atlas, a 150 CE Roman marble copy of a Hellenistic original created 300 years earlier, was missing for approximately 1400 years. It was found during excavations in central Rome, was purchased by Cardinal Alessandro Farnese in 1562, has been displayed in Rome, and is currently in the Naples' Archeological Museum.

Until the 1570's, Atlas was, to my knowledge, not reported to have ever carried a terrestrial globe on his shoulders. While absence of evidence is not proof of nonexistence, it appears safe to say that until the 1570's there were probably no Atlas statues created carrying a terrestrial globe.

Figure 4. (Above) Modern statue of Atlas, author unknown, holding a terrestrial globe on his shoulders, From the collection of Leonard Rothman. (Below) Enlargement of the above globe.

Gerhardus Mercator published his monumental atlas of Europe on or about 1572, naming it Atlas, and thus connecting his work with maps to the ancient tales of the god Atlas. Statues of the mythological Atlas, holding up the sphere of Earth or the heavens, began to appear around the same time, and have appeared and continue to appear in both globe collections and commercially today. While there is only circumstantial evidence, I suggest that Mercator's naming of his monumental book of maps Atlas at around the same time that Farnese began displaying his Atlas statue created an asso-

ciation in public minds between the two Atlases, which then broadened the concept of the god Atlas' role. This enabled the current evolution of the concept of the mythological god Atlas, now holding up either the terrestrial or the celestial globe.

Endnotes

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[4] *Celestial Sphere*, *featuring the first Greek celestial globe-* www.jstor.org/stable/23993955

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Recommended Reading

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***Leonard Rothman's** last globe article, "Slated Globes," appeared in the Spring 2022 edition of this journal. Leonard is a past president of CMS and a frequent contributor to Calafia.*

Cartophilately -
What, Why, Who, When and How
Stuart Hamilton

If cartographers draw maps, what do cartophilatelists do? Well, if you think that etymology reveals the meaning of words, apparently philatelists love not paying taxes, as 'philately' comes from the Greek *phil*=love + *a*=no + *tele*=tolls or taxes! Of course, what they actually love is collecting little bits of paper, which, when stuck by a sender on an envelope or box and put through the mail, allows the recipient to receive the item without having to pay for the postage. So—cartophilatelists love collecting little bits of paper—with maps on them.

Why do we do that? For much the same reason that people love collecting maps rather than simply using them—they love them for the beauty or intricacy of the design, for the insights into the history of map-making, for the history behind the maps, for the fascination with the varied ways people choose to map things, and, I guess, some love them because they are collectible, and hence might increase in value over time.

WHO WE ARE:

Who are the Cartophilatelists? We are an association, the Cartophilatelic Society, of people who collect maps on stamps. We are affiliated with the American Philatelic Society and the American Topical Association (topical philately is collecting stamps based on specific themes, rather than by country, date, etc). Although most of our members are US-based, we have members from all around the world, and most of our activities take place online. Our current President lives in the Netherlands, and other members live in Canada, Australia (including me), France, New Zealand, Denmark, Singapore, Britain, Israel, Norway, Spain, Japan, China (Hong Kong), Italy, Portugal and Switzerland. Our organization was originally formed in 1955, and after nearly 70 years of dedication from our founders and others, we continue to provide a forum for collectors interested in maps, stamps, and the intersection of the two to share their interests and have access to resources.

Our resources include:

- A checklist of maps on stamps—listing over 41,000 stamps, beginning with the first stamp to show a map (see below) and continually updated.

- A quarterly magazine, *The New Cartophilatelist* ('New' because during some dormant years (1995-2002), the original *Cartophilatelist* magazine ceased publication). This magazine lists the most recent map stamps issued globally. It also contains articles on subjects of interest to our members, include-ing map projections, rrecent developments in mapping, antique maps, maps and political disputes—but all as these relate to philately.

- A website https://www.mapsonstamps.org includes a member-only resource centre providing research tools for their investigations.

- An online discussion forum for members.

- Occasional publications on special subjects.

WHAT WE COLLECT:

The first stamp of any kind was issued in 1840, called the "Penny Black" in the UK, but for the first few decades after that initial stamp, they were drab affairs, though collectible and often very valuable. Issues illustrating something more than the head of a head of state or national worthy, or a national emblem came along eventually. The first appearance of a map on a stamp is generally agreed to be in 1876, the French "Peace and Commerce" issue , showing a rather sketchy map of the Atlantic Ocean between France and North America.

The number of map stamps slowly increased over time, and now, although the use of postage stamps in general is fast being reduced to filling stamp albums rather than paying for postage (and thus becoming a nice little earner for postal administrations), the number of map stamps continues to grow. Only one country so far has decided to stop issuing stamps—Iceland. (*Fig. 6, next page*)

Maps can be included on stamps to:

- Publicise the existence and location of a territory following independence—whether peaceful or disputed (*Fig. 1, next page*)

- Commemorate an event that is best illustrated by a map—e.g., an agreement to establish the Prime Meridian or the centenary of an area such as the Oregon Territory (*Fig. 2, next page*)

- Stake a claim to a contested territory—famous disputes well illustrated by map stamps include the area of Essequibo contested by Venezuela and Guyana, the borders of Paraguay and Bolivia, or the current dispute over the South China Sea (*Fig. 3, next page*)

- Publicise a territory for reasons of national pride, to promote tourism, or to make a political statement, such as tiny Mauritius illustrating its huge maritime zone. (*Fig. 4*)

- Show major transport routes or infrastructure—bridges, canals, highways, flight routes, etc. (*Fig. 5*)

- Locate interesting features—national parks, cultural objects, or major landforms such as the fault line through the centre of Iceland. (*Fig. 6*)

- Illustrate traditional forms of maps or charts distinct from the usual western type—such as the stick charts of the Micronesian islands. (*Fig. 7*)

Fig. 1 Biafra

Fig. 2 Oregon Territory

Fig. 3 Essequibo,Venezuela

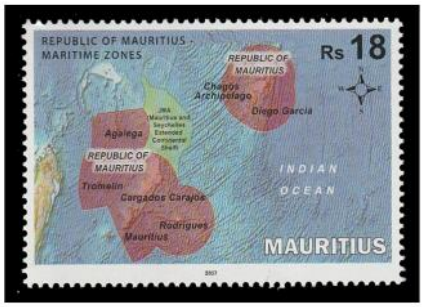

Fig. 4 Mauritius

Fig. 6 Iceland

Fig. 5 Newfoundland

Fig. 7 Marshall Islands

The types of maps illustrated vary greatly—different projections, political and physical geography maps, nautical charts, weather maps, detailed maps of small areas, and conceptual maps illustrating a point rather than being accurate. Each collector makes his own decision regarding what to collect and how 'completist' to be.

WHAT IS THE MEANING OF COMPLETIST?

As mentioned earlier, there are over 41,000 map stamps in our map stamps listing—there is plenty to choose from!

Our Society tends to be very inclusive in our definition of a "map," given the wide variety of our members' interests. Maps can include specific site and building plans (for example, the plan of a world heritage site) and stretch all the way to terrestrial and astronomical globes. The definitive factor for inclusion is that some detail of the area covered is included.

Individual collectors tend to define the limits of their interests and collections—for example, by collecting just one example of a particular design rather than every denomination or by limiting a collection to certain countries or issues. These choices will often reflect the reasons that brought the collector to this special interest—something personal in their own life or experience, wanting to limit a general collection, or through a professional interest in cartography, history, or travel.

A collection of antique maps on stamps is a frequent focus of cartophilatelists, as such stamps reflect in miniature the interest, historical significance, or beauty of their subjects. In fact, one of the occasional publications of the Cartophilatelic Society focuses on the famous Waldseemüller Map[2] (*Fig. 8, next page*).

HOW WE COLLECT:

Collecting maps on stamps has never been easier. Supplementing, and to some extent replacing, the individual stamp dealers' shops and local and regional stamp shows, most collectors now rely on online purchases through eBay, specialist stamp sales, or auction sites. Armed with our checklist and a list of URLs, the cartophilatelist's ambitions are more than ever limited only by their bank balance—though all but a very small number of rare issues are not particularly expensive.

Finally, the field of cartophilately is not necessarily limited to collecting stamps issued by national postal authorities as recognised by the Universal Postal Union (UPU) only. Many of us also collect other stamp-like objects containing maps.

Fig. 8 Germany

These may represent:

- Stamps or labels issued by local authorities (states, local governments, or government agencies for genuine use within their territory, either for local postage or payment of a tax. (*Fig. 9*)

- Stamps from breakaway or would-be secessionist territories not recognised by many or any countries, such as example Tibet, Transnistria, and North Ossetia. (*Fig. 10*)

- Uninhabited islands for which a stamp is issued by someone for commercial reasons (bogus countries), One of my favourites in this category is of Clipperton Island, a guano-enriched but unpopulated atoll in the Eastern Pacific off the coast of Mexico but claimed by France, who also issued a regular stamp of the island. (*Fig. 11*)

- Non-existent countries, issued for propaganda, satirical, or simply amusement reasons—for example, the Gay Kingdom of the Coral Sea. (*Fig 12*)

- Labels issued to give publicity for events—fairs, conventions, etc—with the map showing where they are located. (*Fig 13*)

These items are sometimes called 'back of book' issues, as they are often placed at the back of a stamp album or, in some cases, at the back of a catalogue—so appropriately mentioned at the back of this article, perhaps! More often, they are called 'cinderellas' (all dressed up but not invited to the UPU ball). We maintain a separate checklist of some of these, but as it is almost impossible to define the limits of the 'cinderella' category, this checklist is highly selective.

I hope this article gives readers some sense of why we like collecting maps on stamps. You can find out more on our website (see above), including how to join!

Endnotes

[1] All map stamps illustrated are from my personal collection.

[2] *America on the Map* The Cartophilatelic Society 2007. See https://www.mapsonstamps.org/occasional-publications/op-1-

Fig. 9 Kansas

Fig. 11 Clipperton Island

Fig. 10 Tibet

Fig. 13 1956 Olympics

Fig. 12 Gay Kingdom, Coral Sea

Stuart Hamilton is a committee member of the Cartophilatelic Society. He has collected maps on stamps for the last 25 years, having rediscovered and taken the hint from his boyhood stamp collection which included a separate album of map stamps. He has headed several public education, health and environment agencies.

Map Stamps of South Georgia and South Sandwich Islands ~ Part 1

David Wolfersberger

Author's Note: This is the first part of the fifth and last of a series of articles originally published in The New CartoPhilatelist discussing the map stamps of islands in the South Atlantic Ocean. It first appeared in issue number 83 in October 2023. Earlier articles discussed the map stamps of St. Helena, Ascension, Tristan da Cunha, and the Falkland Islands.

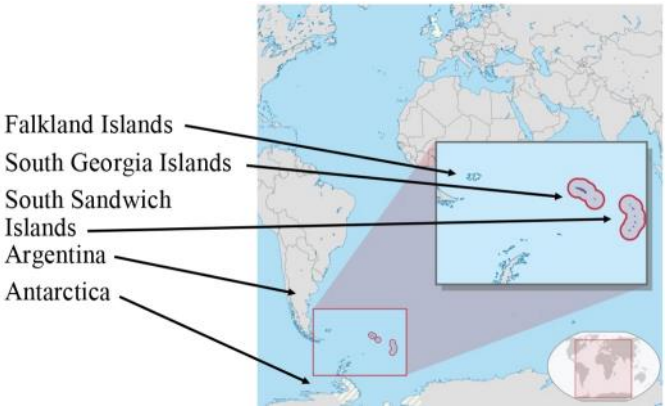

Figure 1. Location of South Georgia and South Sandwich Islands. Source: https://commons.wikimedia.org/wiki/File:South_Georgia_and_the_South_Sandwich_Islands_in_United_Kingdom.svg

South Georgia Islands and South Sandwich Islands are a British Overseas Territory located in the South Atlantic Ocean (*Fig.'s 1 and 2*). The South Georgia group consists of 13 islands and small rock outcroppings, with South Georgia Island by far the largest; it is 106 miles long and 22 miles wide at the widest point, with a total area of 1362 mi^2. It is located 860 miles east-southeast of the Falkland Islands, at 54°15'S, 36°45'W. The South Sandwich Islands are about 430 miles east of South Georgia. This archipelago consists of 13 uninhabited volcanic rocks.

The South Georgia Island climate is harsh with an average high temperature of 35°F and an average low of 28°F.

Figure 2. Argentina Scott 1366. Argentina's Claims to the Falklands, South Georgia, and South Sandwich.

There are no permanent residents on South Georgia, but the British Antarctic Survey operates two bases, one at King Edward Point (population of 12 including the spouses of two officers) and a base on Bird Island (four staff). The staff at King Edward Point do research in support of the fisheries, as well as manage magnetic and seismic monitoring stations. The Bird Island station focuses on the study of seabirds and seals.

History and Early Maps

South Georgia was discovered by the English merchant, Anthony de la Roché, in April 1675. Although he spent many days in one of the island's bays, he did not set foot on the island. A 1705 map of South America by French geographer Guillaume Deilise (*Fig. 3*) is the earliest map I found that shows South Georgia. On this map, the islands are called "I. de la Roche" on the left, and "Terra inconnue" to the right. The

Figure 3. 1705 Map of South America by Guillaume Deilise (top), and detail area showing the Falklands (A) and South Georgia (B).

lack of any detail indicates de Lille had heard of the islands but knew little (if anything) about them. On a 1708 update to the map (*Fig. 4, next page*), de Lille added the comment "Detroit de la Roche découvert en 1675" ("Roche Strait discovered in

1675"). Several other 17th and 18th-century maps show this same representation of South Georgia.

It wasn't until Captain James Cook visited South Georgia and South Sandwich in 1775 that a true map of the area was created. Figure 5 shows his route around and among the islands. Figure 6 is a copy of the map that he drew during his voyage. The same map appears on a stamp shown in Figure 7 along with his ship, *HMS Resolution*. The final map, including South Sandwich, was published in 1777 (*Fig. 8*). Figure 9 shows a detail from the 1777 map.

Unfortunately, the South Sandwich Islands are not clear on the map in Figure 8. Careful examination shows Cook's map of the South Sandwich Islands was not very accurate. Between 1819 and 1820, Admiral Fabian Gottlieb von Bel-

Figure 4. 1708 update of 1705 map, and detail showing South Georgia.

Figure 5. South Georgia Scott 53. Captain Cook's 1775 route in South Georgia and South Sandwich.

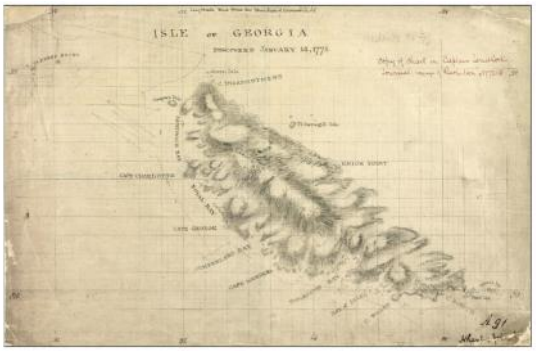

Figure 6. Captain Cook's original 1775 map of South Georgia. Source: UK Hydrographic Office.

Figure 7. South Georgia Scott 580. Captain Cook's 1775 map and *Resolution*.

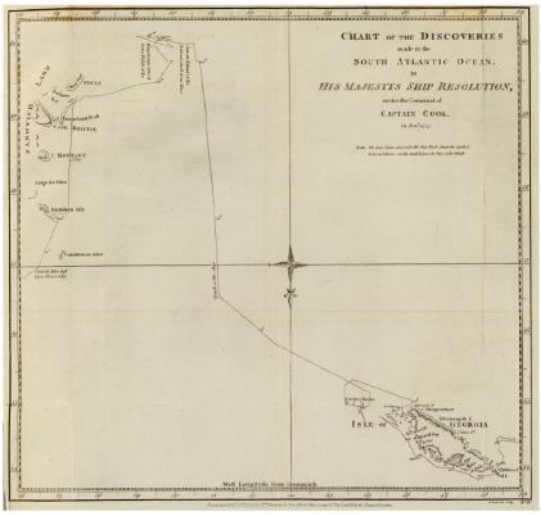

Figure 8. Final version of Cook's map, published in 1777. Source: David Rumsey Historical Map Collection.

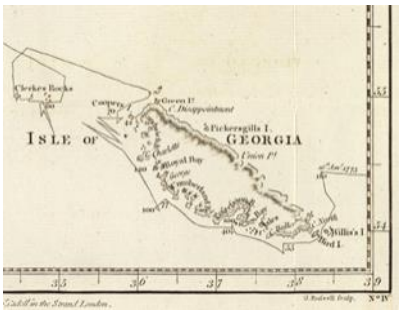

Figure 9. Detail of South Georgia from map in Figure 8. *Resolution's* route is clearly seen.

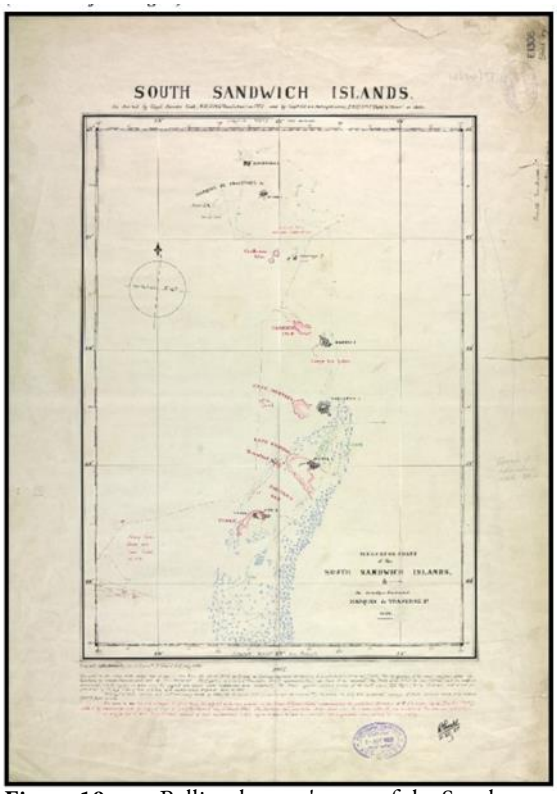

Figure 10. von Bellingshausen's map of the South Georgia Islands. Source: UK Hydrographic Office.

lingshausen led the first Russian Antarctic Expedition that included a circumnavigation of Antarctica. He also visited the South Sandwich Islands and obtained information that was used to create a more accurate map of the islands, shown in Figure 10. Two stamps that show maps of the South Sandwich Islands are Falklands Dependencies Scott 1L38 (*Fig. 11*) and Argentina Scott 2645 (*Fig. 12*).

After Cook's map of the South Georgia and South Sandwich Islands became available, maps began to include better representations of the area. For example, Figure 13 shows a detail of an 1808 map by Aaron Arrowsmith. At South Georgia he notes, "Land discovered by la Roche 1675. I of Georgia by Capt. Cook in 1775." Many place names are included. South Sandwich is included, with

South Georgia Islands on Stamps:
Figure 11. Falkland Dependencies Scott 1L38. (above)
Figure 12. Argentina Scott 2645. (right)

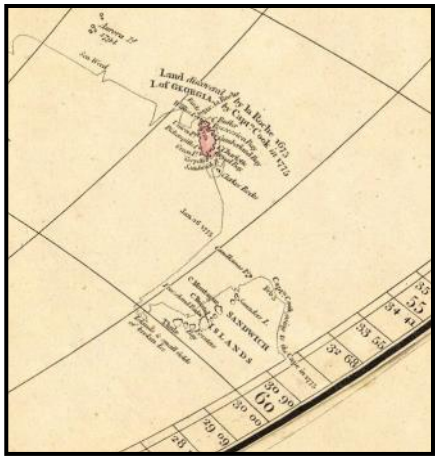

Figure 13. Detail from 1808 world map by Aaron Arrowsmith. Source: David Rumsey Historical Map Collection.

the names of many of the isles noted. Another interesting example is a 1787 map by Jean-Baptiste D'Anville (*Fig. 14*). South Georgia is shown with the comment, "*Discovered in 1756 by the Spanish Ship Lion and Explored in 1775 by Cap. Cook*." South Georgia was spotted by this ship, but the geographer who created this map either

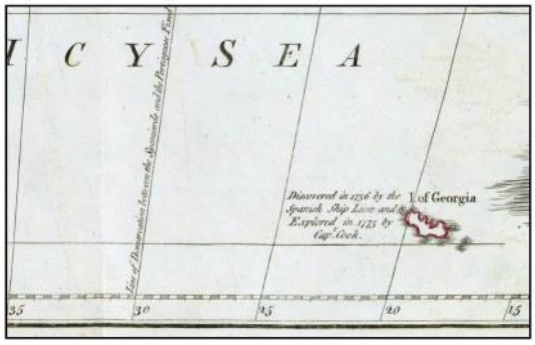

Figure 14. Detail from 1787 map of South America by D'Anville.

didn't know about la Roche's visit there in 1675 or chose not to recognize it.

Newer Maps

There were few new maps of the South Georgia after Captain Cook's original; there were no maps of the interior at all. A series of surveys lead by Duncan Carse in the summers between 1951–1957 (there was no expedition in 1954–1955), resulted in a detailed map of the island (*Fig. 15*). The expeditions were privately financed by the Royal Geographical Society, Falklands Islands Dependencies, Odham Press, and others.

The survey teams were of various sizes ranging from four to eight, with Carse returning alone in 1956 to complete the survey.

Figure 15. Detail from 1808 world map by Aaron Arrowsmith. Source: David Rumsey Historical Map Collection.

The survey work was documented in the book *Putting South Georgia on the Map: Duncan Carse's South Georgia Surveys of 1951-56*, by Alec Trendall, published in 2011. Trendall was a member of several of the survey expeditions. In addition, Carse wrote a detailed description of the work in the article "The Survey of South Georgia 1951–57," published in *The Geographical Journal* (Royal Geographical Society), March 1959. The original map is shown in Figure 16.

Figure 17 shows another picture of Carse's map, along with the survey team on the stamp and on the attached label. A detail map of Neumayer Glacier from the Carse survey is shown in Figure 18 along with a satellite image from 2003.

Two recent maps were made with the latest technology (*Fig. 19*). The maps are described in this note from the South Georgia government website (South Georgia Mapping Stamps – Government of South Georgia & the South Sandwich Islands) (slightly edited):

Figure 16. Carse's original 1958 map. Source: *The Geographical Journal* (Royal Geographical Society), March 1959.

Figure 17. South Georgia Scott 325. Carse's survey team and map.

Figure 18. South Georgia Scott 348. Left: Detail of Neumayer Glacier from Carse's map. Right: 2003 satellite image of the areas.

"Modern technology and the availability of satellite imagery have revolutionized mapping and mean that South Georgia can be viewed in detail like never before. Utilizing images from the Digital Globe Worldview satellites produces images with up to 30 cm resolution. Combining this with the latest photogrammetry and computer technologies means it is possible to map peaks and contours at 25 m resolution, see the precise position of lakes and streams, monitor the rate at which glaciers retreat and even differentiate types of vegetation. This work by the British Antarctic Survey MAGIC team has culminated in the production of the most recent and most comprehensive map of the island which was released in 2017 (*Fig. 19, left*). In parallel with this a Geographical Information Systems (GIS) web portal has been developed and means that anyone can access detailed maps rich with information about everything from the position of wildlife colonies to locations of historic sites (*Fig. 19*)."

Figure 19. Carse's original 1958 map. Source: *The Geographical Journal* (Royal Geographical Society), March 1959.

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Unless noted, historic maps are from The British Empire and South America Maps.
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Seale-1744 - South Georgia and the South Sandwich Islands - Wikipedia
File: South Georgia and the South Sandwich Islands in United Kingdom.svg - Wikimedia Commons
https://commons.wikimedia.org/w/index.php?curid=16003655
South Georgia Mapping Stamps – Government of South Georgia & the South Sandwich Islands
South Sandwich Islands Stamp Release – Government of South Georgia & the South Sandwich Islands
Falkland Islands Colony (britishempire.co.uk)

David Wolfersberger is a retired chemical engineer, having spent his entire career in the chemical manufacturing industry. His current philatelic interests are maps on stamps, wine on stamps, and food/gastronomy on stamps, in addition to stamps from Ireland and Switzerland. He and Kathleen, his wife of 56 years, live in Ocala, FL. They have three children and two grandchildren.

Sea Monsters [1]

Hans den Hartog

Carta Marina
Olaus Magnus 1539

Serpent

In the intricate tapestry of cartography, where maps tell us stories of exploration and imagination, the sea monsters immersed in the long empty stretches of oceans have long held great interest. As collectors of maps, we find ourselves drawn not only to the essential role of maps in navigation and exploration, but also to the artistry, and to the cultural and historical narratives they embody. Within this rich context, we can explore the fantastical realm of sea monsters through the world of stamp collecting. These seemingly disparate endeavors—depictions of sea monsters, and stamps—converge as they encapsulate historical perspectives, and evoke a sense of wonder in us. While maps tell tales of uncharted waters and mythical creatures, stamps envelope cultural motifs on a miniature canvas. Together, they can present a special interplay between visual storytelling and historical documentation, which invites us to explore the fantastical monsters on ancient maps as well as the maps rendered in miniature on postage stamps. Join us on this journey of exploration, where sea monsters, cartography, and philately intersect, revealing unexpected connections that transcend the boundaries of scale and chronology.

Juliet Rothman, Editor

Sea monsters (Fantastic Beasts) do not exist

Sea monsters are aquatic creatures that are amazing and exotic (both real and mythical) in the classical, medieval, and Renaissance periods.

People who are looking for them anyway, to prove that they do exist, are called cryptozoologists, this area of interest may be fascinating and entertaining, but it is pseudoscience, it investigates the existence of mermaids, cyclops, unicorns, dragons, the Loch Ness monster and the Yeti (the terrible snowman), while they do not exist. Some of the mythical creatures may be explained by real observations, with misinterpretations: the mermaids may be a manatee and the unicorn may be the narwhal. Sea monsters are also mythical creatures, but they are depicted on maps from the 12th—17th centuries, because the cartographer borrowed them from a fellow mapmaker, or based them on scientific publications, mostly encyclopedias, in Latin.

For the spectators of the Middle Ages and Renaissance, the sea monsters on European maps were a real danger, for modern eyes they are endearing elements on old maps, whether they swim vigorously or frolicing, playing happily on the waves or attacking ships or just showing themselves for "the beautiful."

Many sea monsters on medieval maps are hybrid (both land and sea animal), seal, sea lion, sea boar, the idea was that each land animal had an equivalent at sea. The surface of the ocean functioned as a zoological mirror: everything above water had its counterpart underwater. Because of this theory, it was possible to design a range of exotic sea creatures. This theory had adherents well into the 16th century.

Sea monsters on maps fulfill multiple roles:

- Reflect the literature that exists on sea monsters.
- Decorative elements that enliven the image of the world.
- The sea can be dangerous and the oceans have great vitality—many species show and indicate dangers to sailors.
- Keeping seafarers or fishermen of other nations at bay by deterrence.

These roles can coincide on a single map.

A map can be a cultural-historical source to see how cartographers from other times have depicted their surroundings. Their views at the time and context can be found on their maps.

A striking example of this:
Carta Marina et descriptio septemtrionalivm terarvm ac mirabilivm rervm in eis contentarvm diligentissime elaborata Anno Dni 1539 Veneciis.

A nautical chart and description of the northern lands and their wonders, very carefully drawn up in Venice in the year 1539. (*Fig. 1 and link, next page)*

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[1]This article was first published in *The New Cartophilatelist* Number 67 October 2019. It is being reprinted in *Calafia* by permission of the editor and the author.

Figure 1. Stanley Gibbons: Southwest Africa (Now Namibia) 1982 nr 394 type 108 (Gibbons, 2013). Sea Monster (Serpent) This image is based on Olaus Magnum's maps. A composite image from a 1949 facsimile of 'Carta marina' can be viewed at https://en.wikipedia.org/wiki/Carta_marina.

The year 1539 is an important year in the cartographic history of Scandinavia and the Faroe Islands. Olaus Magnus (1490-1557), a Swedish clergyman, published his large map (125 x 170 cm) of the Nordic countries, Carta Marina. Magnus was appointed archbishop of Uppsala by the pope in 1544. His activities in the political life of the Reformation took him abroad for most of his life, where he also wrote his works.

More than 100 illustrations summarize the cultural, ethnographic and myths of northern Europe. Each kingdom is represented by its seated monarch with sceptre and globe and with his coat of arms. The sea is populated by monsters, mythical creatures, who attack ships; dragons and unicorns. A monster has been captured and dismantled in the Faroe Islands. (*Fig.'s 2 & 3*) On the Gulf of Finland and the Gulf of Bothnia, people ride sleighs pulled by horses, men skiing and Finns fighting the Russians, reindeer pull sleds and are milked, knights fight with bulls and three men throw snowballs Natural resources are also listed: circles of iron deposits, squares of copper and rectangles of silver.

Figure 2. Stanley Gibbons: Sweden 1991 nr 1557 type 441 (Gibbons, 2013). Carta Marina 1572 (Olaus Magnum)

Just west of the Faroe Islands, a menacing monster swims with the head of a wild boar, sharp teeth, dragon's paws, and eyes in the flesh on the ribs—the Protestant sea hog. Observed in 1537, Olaus wrote, the same year in which the Reformation was carried out in Denmark and Norway.

We see a similar monster in the Bible quotations that are allotted to all the kings around the map. The Catholic kings have received laudatory citations, the Protestant ones condemning. Norway is an exception, because there was no king on the throne in Norway at that time.

Figure 3. Faroe Islands, 25 February 2019, Minisheet 100 x 70 mm

At the beginning of the 16th century, the northern countries were an unknown region. The information about the north was based on the descriptions written in antiquity and in the Middle Ages. However, the cartographic representation of the North was quite wrong and far from reality. The north was represented both as a place of darkness, death and the seat of evil from European antiquity to the time of the nineteenth century, but also as a place of happiness with virtuous happy people. Pytheas of Massilia (350-285 BC) wrote of the people of the north and the people of Ultima Thule as the 'Hyppoder' (or, as they are called in other texts, the Hyperboreans). A standard reference in most maps is the geography of Ptolemy (Ptolemy or Claudius Ptolemy, 100 -170 BC). It is the only book on cartography that has survived in the classical period. Written in the second century AD. For more than fifteen centuries, it was the most detailed reference on mapmaking.

Figure 4. Stanley Gibbons: Iceland 1989 no. MS736 type260 (Gibbons, 2013).

The Carta-Marina is considered one of the most beautiful maps full of colorful illustrations, where the ocean is provided with a number of whales, monsters and ships, where inland we find images of national life and nature. There are all kinds of people as well as many place names and historical references in the drawings. A closer

look at the map reveals people, moose, birds, and even sea snakes engulfing ships in the Sea of Scotland.

Magnus' version of the Faroe Islands contains seven islands. In his 1555 Historia de gentibus septentrionalibus (History of the Scandinavian People), he wrote about the dangerous rock formation in the southern part of the Faroe Islands called Munkurin (the Monk), which can also be found on the map. Magnus saw the Faroe Islands as 'ön Färö' (that is, as a single island called Faroe), which, along with Munkurin, constituted both a sailor's paradise and a deadly place. He also mentioned the many dangerous monsters (whales and sea monsters) and demons. Killing fish or whales (whales at the time were also depicted). The Faroes were already relatively well known to scholars and cartographers throughout Europe. Magnus's map is a proof of a pre-Enlightenment (the Enlightenment) image of the Faroe Islands.

Figure 5. Stanley Gibbons: Iceland1990 no. MS760 type 267 (Gibbons, 2013).

Figure 6. Stanley Gibbons: Iceland 1991 nr MS771 type 271 (Gibbons, 2013).

Figure 7. Stanley Gibbons: Iceland 1984 nr MS645 type 220 (Gibbons, 2013).

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Hans den Hartog is a retired lecturer at the University of Applied Science in The Hague. Hans, a geographer, has a special interest in cartography and still meets students in classes focusing on "datavisualization" and "datastorytelling."

Meet Our Member

Dr. Judith A. Tyner, Ph.D.

Interviewed by Juliet Rothman

Judith Tyner is a name familiar to many members of the Map Society. Judy was one of the very earliest members of the Society, joining soon after it was founded, has remained a very active member, and continues to be involved today. She has both written articles for *Calafia*, and been a speaker at Map Society meetings since 1979.

Judy is dedicated to cartography, and also participates actively in the North American Cartographic Information Society (NACIS), and in the Association of American Geographers. She will be a speaker at their April 2024 meeting. She has also written on the subject of women in cartography, her special interest, and is in the process of writing another book on the subject at this time.

Judy was born in Ohio, where her father was very "active and busy" during the years of WWII. He had been in the CCC (Civil Conservation Corps) near Mount Shasta and had fallen in love with California. At a certain point during Judy's childhood, her parents decided to move West. They auctioned off their home, bought a trailer, packed up their belongings and their children, and took off, touring the country extensively, finally arriving in California. The family lived in Encinitas for two years, then Inglewood, and then, as Judy was finishing high school, moved to Santa Monica, so that Judy could commute easily from home to her studies at UCLA.

One of the very special things her parents had owned, and had given to Judy, was an old Collier's Atlas, which is still in her possession today. She "grew up with it," loved and treasured it, wrote little notes in it, and drew pictures of her car and the family trailer in the book as a record of their travels as they moved around the United States. She has written an article for *Calafia*, entitled *Biography of an Atlas*, (Spring, 2019) describing her experiences and her relationship to this special atlas.

At UCLA, Judy took a course in Geology, taught by a professor who was a geographer, and inspired her interest in the subject. She liked to read maps, enjoyed cartography, and decided to major in geography. One of the first courses for her major was map reading, and the next was cartography—"the art and science of making maps." She took all three cartography courses the school offered, and decided that cartography would be her area of specialization. While on a Saturday field course, she met the student who was driving one of the three cars for the class to their destination. He was Gerald, also a Geography major—and, though she didn't know it then, her future husband! They went on to Master's degrees in Geography at UCLA together, and Judy earned money for her graduate studies by making maps for students and faculty, who would request her services for their own projects and studies. Her Master's thesis was on maps of the moon. Gerald and Judy married upon completion of their Master's degrees. After their wedding, Gerald served in the Army in Fort Knox, Kentucky, Camp Drum, New York, Germany, and Vietnam, and then returned to California, where they both enrolled in the Geography Ph.D. program at UCLA.

Judy's efforts and studies were enthusiastically supported by her Ph.D. Adviser—none other than Norman Thrower, who also facilitated her very first book contract. She wrote her doctoral dissertation on Persuasive Cartography, a term she coined. She has published six books on Cartography, and is currently in the process of writing a book tentatively entitled Women in Cartography during WWII. It focuses especially on women in the Army Map Service, and in the Office of Strategic Services.

One of her books, Stitching the World: Embroidered Maps and Women's Geographical Education, focuses on late 18th-century and 19th-century map samplers and embroidered globes. She had learned to embroider as a child, and had been given a book on needlework and embroidery which included photographs of four very tiny maps. Re-reading the book made her wonder why the maps were given such a low priority.

Later, while bicycling Vermont and New England with her husband Gerald, she would stop at various places that touched on geography, including a school where girls were taught to make embroidered globes, a project that both encouraged the development of embroidery skills and taught the girls about the geography of the world. The visit greatly inspired her to continue to do research in this area, and her book details all that she has learned about the ways in which needlework was used to teach girls about geography.

Judy taught at Cal State Long Beach in the Geography Department. She has also been a speaker in many map-related venues over the course of her career. She lives in Long Beach with her husband, who also taught Geography at various universities. The Tyners have two sons: David, who is an artist, and James, who has followed his parents' interests, and is also a geography professor, at Kent State University in Ohio. Judy has two granddaughters, both also at Kent State.

Judy and Gerald love to travel, and continue their travel adventures today. They have explored 49 of the 50 states, missing only Alaska, which is a major priority on her to-do list. They enjoy bicycling, hiking, and camping, especially in the National Parks. Judy also enjoys women's bicycle tours and mystery stories—especially those with maps!

Terra Ligna: Creating 3D Wooden Maps from Digital Elevation Models with a CNC Router

Grant Kaye

Introduction

The Latin "Terra Ligna" translates in English to "wooden earth." Of course, wooden relief maps of the surface of the earth are nothing new, and there is anecdotal written evidence of wooden relief maps being made as far back as ca 221-206 BCE in China during the Qin dynasty (Needham, 1986).

Today, several thousand years later, more modern techniques allow wooden maps to be created on a CNC (Computer Numerical Control) router and laser engraver with exquisite detail and incredible accuracy.

I came up with the idea for Terra Ligna about 20 years ago, when I was a graduate student in Oregon State University's Department of Geosciences. I had been invited to work on a NASA-funded research assistantship, during which we utilized new data from the agency's SRTM (Shuttle Radar Topography Mission) project to identify and classify topographic surface patterns endemic to subduction zone geomorphology at six different convergent plate boundaries around the globe (Kaye, 2003; Goldfinger et al., 2005).

While I was working on that project, I found myself wishing there was a way to create miniature 3D relief models of the subduction boundaries, with continuous topographic and bathymetric surfaces, to facilitate quantitative and qualitative analysis of convergent plate boundary geomorphology. If there was a way to translate DEM (Digital Elevation Model) data into physical models on a CNC machine, I was not aware of them back then. While I made numerous 2D shaded relief maps, and 2.5D oblique perspective maps for terrain analysis, I longed for something tangible that I could examine with my hands.

It took me until 2015, when I co-founded the Truckee Roundhouse Community Makerspace, a 501(c)(3) not-for-profit organization located in a 4,500 SF warehouse at the Truckee-Tahoe Airport, to finally be able to bring this idea to fruition. The first maps I made were rudimentary, as I honed the GIS and CNC processes necessary to bring DEM data to life out of wood. One of my first maps was a coffee tabletop size solid wood slab carving of the bathymetry of Lake Tahoe, now on display at the Ace Hardware store in Truckee.

In 2021, I met Mike Crabb, a mixed media artist and finish carpenter, and we formed a synergistic partnership using my GIS skills and his carpentry and woodworking talents to bring our wooden map creations into the realm of fine art.

More About the Roundhouse

The Roundhouse Community Makerspace operates like a gym—a $50/month membership buys members access to multiple shops—wood, metal, ceramics, technology, and textiles, which are available after a member completes a safety check or specific training class. Each shop hosts many different levels of classes, all of which are open to non-members as well.

Our Makerspace also frequently hosts school programs for children ages 12 and up who can learn technical, artistic, construction trade and repair skills, skills that are becoming rare in today's "throw it away and get a new one" era.

I made my first maps on the Roundhouse's original 4'x4' CNC router, donated to the Roundhouse by the Truckee Tahoe Lumber Company. This machine was primitive compared to the new, state-of-the-art ShopBot PRS Alpha 4x8' machine we now utilize. The ShopBot currently allows us to carve up to 8" of terrain into wood up to 48x96" in size, or up to 12" of wood at 32 x 32". We are able to carve terrain or geographic features up to 0.005" in resolution, allowing for exquisite detail in our carvings.

Process Overview

To make a Terra Linga map out of wood, we begin by choosing an area with interesting geography. This might be a mountain range, a ski resort, or an area on another planetary body that has a lot of valleys, rills, and high relief.

We source the highest-possible resolution DEM data from any number of sources—typically government or academia—and then download the datasets, which can often amount to 20+ gigabytes in size. (*Fig. 1*) The data is mosaiced together, which, for areas with both topography and bathymetric data, can include collecting both datasets and resampling and re-projecting them so that they are in comple-

Figure 1. Grant Kaye (L) and Mike Crabb (R) discuss machining strategies on a 3D model of the Hawaiian Islands they are about to carve into a slab of Claro Walnut. (Photo by Court Leve)

mentary formats. This allows them to be merged into one continuous dataset, enabling us to show areas both above and below a water line.

All DEMs are reformatted into a suitable projection for the spatial geographic area, and then converted into a 3D file that can be imported into the CNC program. There, the 3D file is "toolpathed," which means that the CNC software generates a way for a successively smaller set of router bits to cut the actual surface of the file into the wood on the ShopBot.

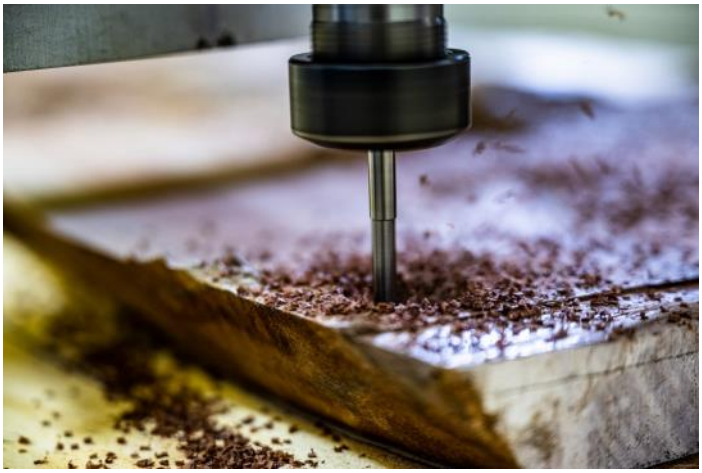

Figure 2. The ShopBot PRSAlpha CNC machine cuts the surface of the sea floor around the Hawaiian Islands into a slab of Claro Walnut. (Photo by Grant Kaye)

Two separate toolpaths are utilized. First, a "Roughing" toolpath, (*Fig. 2*) through which a majority of the wooden slab or billet is removed. Then, a "finishing" toolpath is run, so that a CNC Router bit with a very small diameter of 1/16" or 1/32" can carve the actual surface of the map into the wood.

While the 3D roughing process can take 4-6 hours, the 3D finishing process/toolpath can take upwards of 72 hours of continuous carving.

Material Selection

We make our maps from two different types of wood—sustainable-sourced Baltic birch plywood with alternating light and dark layers, and any number of species of dense hardwood slabs.

We choose Baltic birch for smaller-scale maps with extensive relief and interesting topographic elements, such as a ski resort on a volcano such as Mt. Rainier. These areas are chosen specifically because they are mapped in 3m or even 1m resolution DEM data, which contributes to the extremely high levels of detail in our CNC maps.

The layers in the birch offer a perfect analog to lines on a 2d topographic map. (*Fig. 3*) We can even calculate the "topo interval" from the map scale as the 3D file is generated in our GIS software to CNC router software pipeline. A smaller geographic area, such as the Palisades Tahoe ski area, where the USGS has extensive seamless 1m resolution LIDAR-derived

Figure 3. Looking into Yosemite Valley in a Baltic Birch model of the park (Photo by Grant Kaye)

(Light Detection and Ranging) DEM coverage, will readily show man-made features in the geographic landscape, such as roads, hiking trails, and grading pads of buildings and chairlifts.

For birch maps, a stack of slices of a full-sized sheet of wood is glued together and left to dry for up to 48 hours. The billet is then joined and framed with hardwood, miter-cut to wrap around and fit so that the terrain surface extends through both the birch and the hardwood.

Alternatively, we sometimes choose solid wood slabs (*Fig. 4*) for maps of larger scale areas, or rectangular areas such as a map of the Reno/Sparks area, which doesn't have the same relief as a 14,000' volcano. Fortunately, Mike has an encyclopedic knowledge of hardwood species, and is an inveterate wood slab collector. We have worked in hardwoods such as oak, maple, walnut, koa, elm, and ash.

Figure 4. Mike Crabb readies a slab of walnut to be carved into a map of the Hawaiian Islands on the ShopBot. (Photo by Grant Kaye)

Once a map comes off the CNC router, it is sanded by hand, and then moved over to the 36x55" BOSS laser engrav-

er, where we add customized embellishments to each map, such as streets, railroads, and even building footprints and agricultural parcels. Lastly, our maps are finished with food-safe all natural oils and waxes to bring out the beautiful grain in the wood.

Throughout our lengthy process, elements and parameters of geography are critical to the end result. Improper map projections, or improper mosaic techniques will introduce artifacts and inaccuracies into the maps, which can ruin them. If careful attention is not paid to projections and map scale, it's impossible to add laser-engraved elements to the finished maps, because they can become misaligned in the process.

Conclusion

Each time we envision, build, and deliver a map to a client, the process has seemed, at times, so convoluted and complicated that it feels like a minor miracle has taken place. Watching the terrain of an interesting area come to life out of a piece of wood never stops enchanting us. Nothing makes us happier than handing over a finished piece to a happy client, who then can "windsurf" their favorite ski terrain, or daydream about what it would be like to fly over the Valley Marineris on Mars.

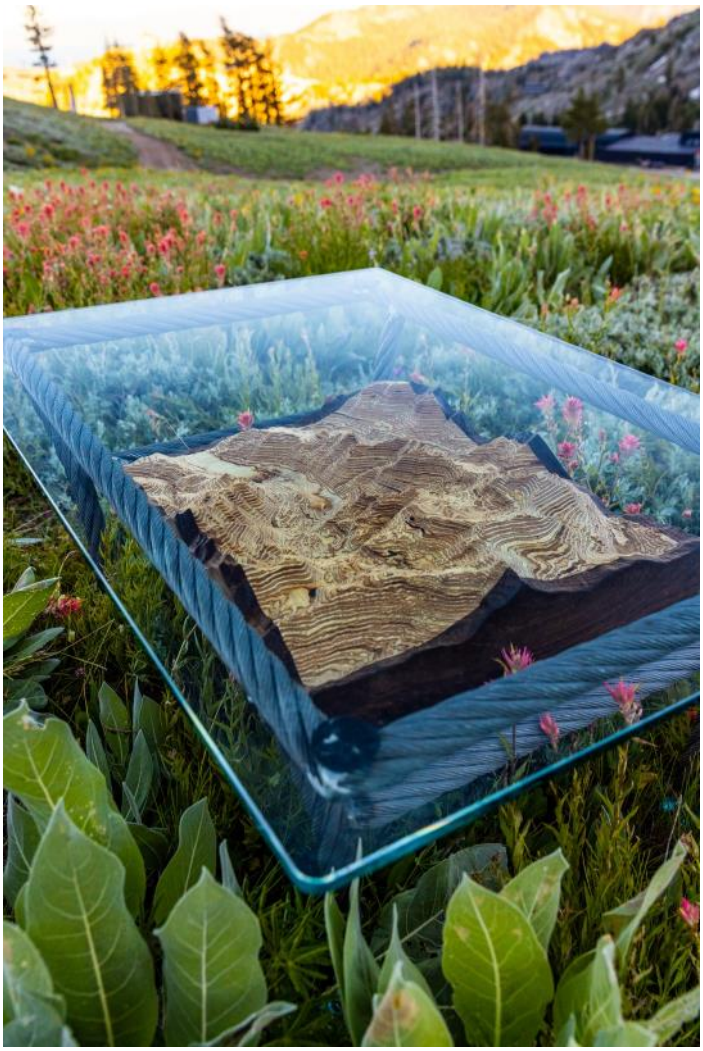

Figure 5. A Baltic birch and walnut coffee table map of Palisades Tahoe ski area supported by a frame and base made from reclaimed chairlift haul rope from the Red Dog chairlift. (Photo by Grant Kaye)

We are currently working on several exciting new maps, including a 9-panel map of the Juneau Alaska area, which uses the merged topography/bathymetry technique we employed for the Tahoe West Shore map, and can be seen at Alpenglow Sports in Tahoe City, CA. We are also finishing a 60" long slab map of the Northern Napa Valley, carved into a storm-downed Utah elm tree, which will be finished with laser-engraved customized details on vineyard properties for a major Napa winery, which will hang in their tasting room this spring.

A future goal of Terra Ligna is to develop a means of articulating a 10-watt diode laser that could attach to the CNC machine's spindle and utilize servo drive motors to articulate in a manner that remains as close to orthogonal to the slope of the map beneath it. This would enable us to engrave even more geographic elements over uneven terrain.

You can find more information about us, and our maps, on our website at https://www.terraligna.com/.

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Hawai`i born **Grant Kaye** lives in Truckee with his wife, son and adopted Indian street dog. Grant holds a BA in Geology from The Colorado College, a MSc from Oregon State University, and a PhD from the University of Canterbury in Christchurch, New Zealand. In addition to practising GIS, geography, cartography, and photography, he is an avid skier and backcountry traveller. Grant also teaches CNC and laser classes to members and kids at the Truckee Roundhouse Community Makerspace, of which he is a co-founder.

Apps for Maps: SCALING UP ATLASCOPE

Ian Spangler, Assistant Curator of Digital & Participatory Geography
Leventhal Map & Education Center at the Boston Public Library

The concept

In January 2021, the Leventhal Map & Education Center—an independent non-profit that stewards the Boston Public Library's collection of about a quarter-million cartographic objects—released Atlascope (https://atlascope.org) to the public. Atlascope (*Fig. 1*) is a free digital resource in which users can easily compare historic urban atlases to one another or to modern geographies.

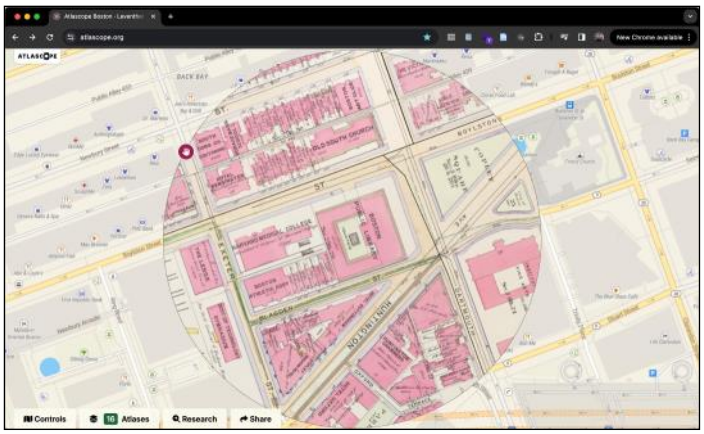

Figure 1. Screenshot of Boston's Back Bay neighborhood in Atlascope.

Serving over one hundred fully geotransformed urban atlases of the Greater Boston area, Atlascope welcomes thousands of unique visitors every month. More importantly, it facilitates research, discovery, and play within a rich collection of old maps that are otherwise quite difficult to examine and access. Writing about Atlascope, former Leventhal Center co-op Patricio Pino may have put it best: "We want to know what our neighborhoods used to look like, how our city has changed along with its citizens, our neighbors, and ancestors, in order to form the communities we now belong to."[1]

Atlascope is constrained to a single type of map collection—the *urban atlas*—for a couple of reasons. In addition to focusing on urban atlases because they provide an unparalleled glimpse into historical geographic change, we've avoided introducing other collections into the tool in order to keep it focused on a specific scale and representational style of source material. In other words, Atlascope is purpose-built and curated for a specific kind of research and interpretation.

Since Atlascope's initial release three years ago, we've released a new version—Atlascope 2.0—and continued to add source material by geotransforming new atlas layers that span a dozen Massachusetts cities and towns. The most recent release also adds features for self-directed research and interpretation. In its current form, Atlascope is the culmination of thousands of hours of labor over many years from dozens of individuals across multiple institutions—and we're always thinking about what's next for it.

As we continue "scaling up" Atlascope, it's useful to reflect on how we got here. Indeed, if Atlascope has taught us anything, it's the value of understanding the past in order to make sense of both the present and the future. How can we continue bringing together multiple techniques in digital librarianship to make online historical maps not only accessible but also compelling and widely used?

The tool

Atlascope provides a few different options—the spyglass (default), X-swipe, Y-swipe, and opacity—for engaging with the maps it displays (*Fig. 2*). Users can search for a location by its modern address, and can change Atlascope's base *and* overlay layers, creating the ability to compare historic maps to one another in addition to comparing old and new (*Fig. 3*).

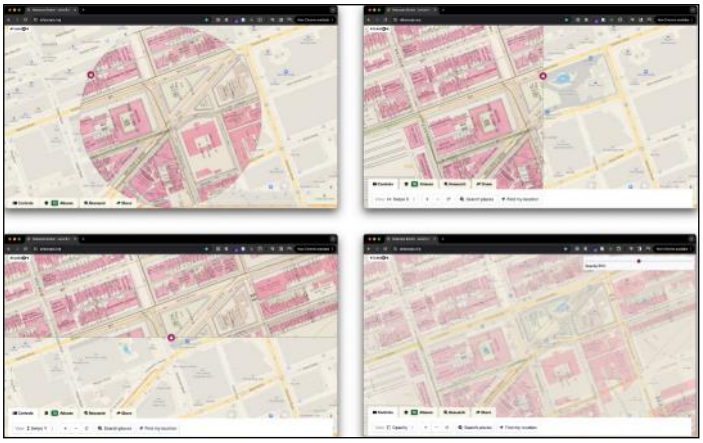

Figure 2. The four different Atlascope controls.

Figure 3. Comparing an 1874 F.W. Beers atlas (base layer) to a 1902 Bromley atlas (overlay) in Atlascope.

Recent updates to Atlascope improve its capacity as a tool not just for exploration and discovery, but recombinatory research and interpretation. Under the "Research" tab, users can leverage the spatial search capacity of the Boston Public Library's digital collections to find maps and photographs that fall within the current view. Users can also add annotations to the map (*Fig. 4*) and even write their own custom "Atlascope Tours" (*Fig. 5*).

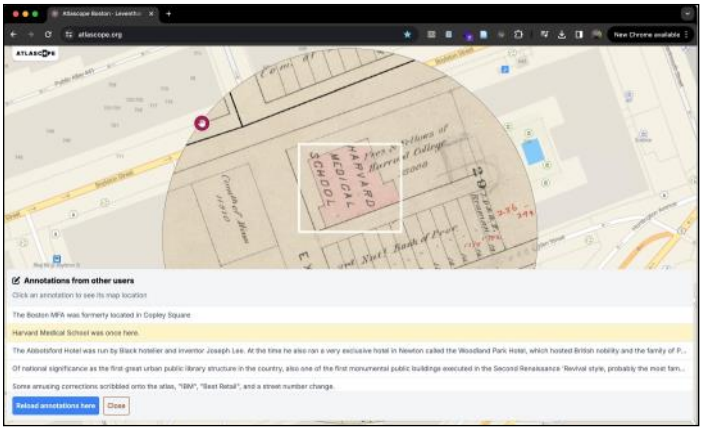

Figure 4. User-submitted annotations in Atlascope.

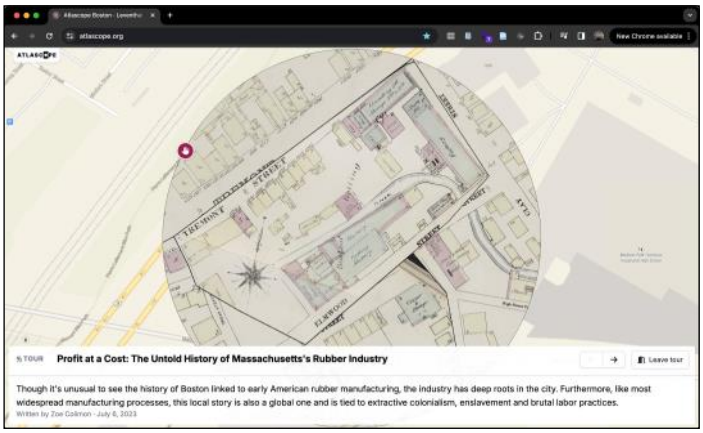

Figure 5. Zoe Colimon's Atlascope tour, "Profit at a Cost: The Untold History of Massachusetts's Rubber Industry."

Of course, the best way to experience the tool is to just try it out yourself, so I encourage you to visit Atlascope at https://atlascope.org.

The objects

Between 1867 and the 1950s, the Sanborn Map Company produced detailed surveys of over twelve thousand cities and towns[2] across the United States, mapping such information as addresses, street names, building size, material, and function. Back then, these maps were used to assess fire insurance risk. Time has transformed them into essential tools for exploring granular change over time, and the term "Sanborn map" has often come to serve as a generic name for any type of atlas executed at the scale of buildings and lots for U.S. cities from the late 19th-century through the mid-20th-century. Even before the era of mass digitization, these maps were widely used in fields such as urban history as a key source of geographic information.

Given how prolific the name "Sanborn" has become when discussing this genre of map, it may come as a surprise that Sanborn atlases comprise only a small portion of those urban atlases in Atlascope. If you take a spin through Atlascope, you'll see names like Pinney, Bromley, and Hopkins. Atlases by these publishers were produced not only for fire insurance, but also for tax assessors and the real estate industry, which meant they typically include an additional data point that Sanborns lacked: property ownership.

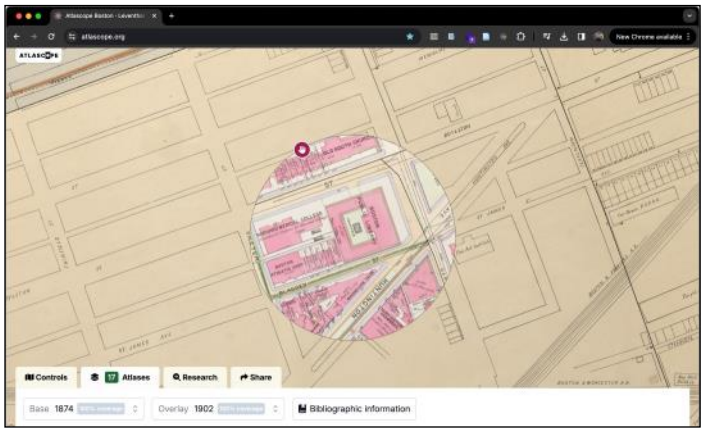

Figure 6. This comparison of an 1884 Bromley atlas (inside the circle) and an 1870 Sanborn atlas (behind the circle) – both showing the same area in downtown Boston—highlights key differences between the atlases.

Hundreds of such atlases are held in the Leventhal Center's collections. Whether a family historian is looking for their ancestors' home in Boston's historic West End, or a scholarly researcher needs to verify the locations of old textile mills, urban atlases—and Atlascope—can provide answers.

The process

In their original form, bound atlases are typically oversize, heavy, and difficult to manipulate. Some are terribly fragile, and their most capacious quality—the ability to compare change over time—is also their most challenging to unlock, since time-comparison research requires pulling multiple large atlases off the shelf and comparing them to one another (usually on a very big table).

Atlascope originated as a response to this widespread problem of access. How could we make it easier for library patrons and researchers to find the information they needed within these atlases? How could we reduce the friction inherent in using these remarkable objects without sacrificing their cartographic fidelity?

At the Leventhal Center, we use the term *geotransformation* to describe the process of turning a physical urban atlas into a digital Atlascope layer. The first step in the process happens in the Boston Public Library's state-of-the-art digitizing lab, where the digitization team images and uploads atlases

to the Leventhal Center's digital collections portal. To date, they've digitized nearly thirteen thousand cartographic objects, including hundreds of urban atlases. By the time you're reading this, that number will have almost certainly changed, as the team digitizes more and more each day.

To turn these digital images of urban atlas plates into maps that can actually be displayed in real geographical space, we use a tool called Allmaps (https://allmaps.org). Allmaps is a free and open-source software ecosystem for matching images of maps to their real-world geography—a process known as *georeferencing*—by creating "control points" that associate part of an image with its appropriate place on the surface of the earth.

Georeferencing, of course, doesn't just magically *happen*—actual people have to manually create these associative control points. At the Leventhal Center, we run an internship program that trains college students to georeference urban atlases for ingestion into Atlascope. In the future, perhaps this process will be automated, but it's worth pausing to recognize the benefits of manually creating this data, too: by georeferencing a map, people become better acquainted with a place, as Atlascope tours from the Center's fall 2023 interns demonstrate.[3]

The final step in the geotransformation process is to create a mosaic (a verb that we jokingly style as *mosaiquing*), which involves stitching together all the plates from one atlas into a single layer. We automate the mosaiquing process with a Python script that uses GDAL (https://gdal.org) components to clip, merge, and ultimately stitch individual atlas plates together into a seamless layer that is ultimately rendered as an XYZ tile pyramid, an open standard for storing tile-based raster maps at multiple scales.

The future

From a technical perspective, Atlascope is a Svelte application built with OpenLayers and Tailwind CSS – but what it's built with isn't as important as *how* it's built. A key design goal of Atlascope 2.0 (for which the source code is publicly available on GitHub[4]) was to make it *modular* and as *generalizable as possible*. Our hope is that Atlascope could be syndicated throughout other institutions and their map collections. We've already begun this work in some cities outside of Boston, so if you're interested in discussing that, please get in touch.

In the next few years, tools for automatically interpreting text on maps—such as the Machines Reading Maps initiative[5]—will make it possible to build all sorts of exciting plugins for Atlascope, as well as geospatial analyses of the data layers that comprise it. Building customized historical gazetteers for an Atlascope instance or searching Atlascope by property owner are not far-fetched daydreams, but practical scenarios that will likely become reality before too long. In many ways, Atlascope is just getting started.

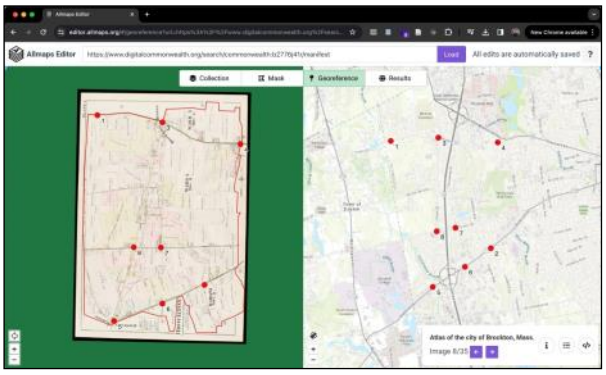

Figure 7. A screenshot of an atlas plate from Brockton, MA being georeferenced in Allmaps. Each red dot associates a pixel in the image (left) with latitudes and longitudes in the real world (right).

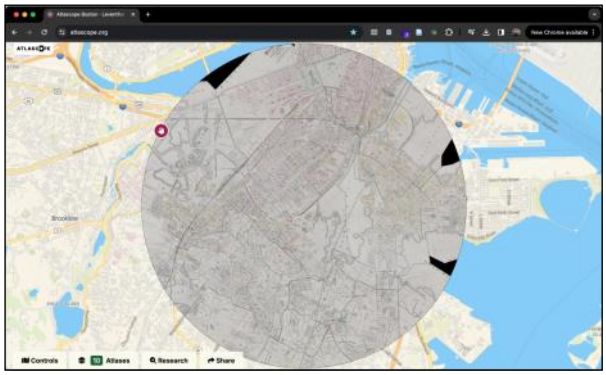

Figure 8. A fully geotransformed urban atlas (Bromley 1882) displayed in Atlascope.

Endnotes

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[5] https://github.com/bplmaps/atlascope-v2

[6] https://machines-reading-maps.github.io/

Ian Spangler is a cultural & economic geographer with interests in digital geohumanities, housing studies, and race & landscape in the US. As Assistant Curator of Digital & Participatory Geography, he manages the Leventhal Center's born-digital collecting strategy and digital mapping initiatives. He earned his BA in English & Geography from the University of Mary Washington, and his MA and PhD in Geography from the University of Kentucky.

AGNES WOODFORD
A CAREER MAPMAKER
Juliet Rothman

Women have been, and continue to be, a minute number in the field of mapmaking and cartography. Agnes Woodford's story explores some of the often circuitous routes taken by women who entered the field. She was both a wife and mother, and a professional mapmaker, whose love of art, calligraphy, and the outdoors combined to inspire her work.

Agnes Hamilton Woodford was born in Dargaville, New Zealand, in 1922, and later lived in the Mission Bay area of Auckland. Although she graduated at the top of her secondary school class, she was not given full honors because she was a woman. She was honored equally with the top male graduate, though she had scored higher on her exams.

She enrolled in art school at the age of 15. Her art school in Auckland, Elam, is today the Elam School of Fine Arts at the University of Auckland, but was then a school that taught "practical" art skills—mapmaking, printmaking, silversmithing, enameling on metal, jewelry design, and theater design. To pay for her schooling, Agnes created commercial art illustrations for clothing stores.

After graduation, Agnes worked at the New Zealand Lands and Survey Department in Auckland, which was then in the process of creating topographical maps of all of New Zealand. This process involved planes flying over a specific territory taking photographs of the land beneath. From these photos, using photogrammetry, Agnes was able to create her topographical maps. She also mapped properties for the Department—along with filing, learning laws regarding land and property, and managing other office functions, such as copying maps with the office blueprint machine. At that time, the Lands and Survey Department was also mapping the highways of New Zealand and all land acquisitions. Their work is now archived at the University of Christchurch. It is significant to note that Agnes was the first, and only, woman in the Lands and Survey Department. She often complained that, as a woman, she was aware that she was paid far less than the men who were doing the same work.

New Zealand, Australia, and the United States had joined forces to defend the Pacific during World War II, and Agnes met her husband, Stephen Woodford, who was in the U.S. Navy and stationed in Auckland, at her office's blueprint machine. Lands and Survey had the one and only blueprint machine in the area, and U.S. Navy personnel regularly came to their office to make needed blueprint copies of the harbor and other areas, as well as "Top Secret" maps showing the magnetic line of variation in areas through which the Navy was moving. One day, he came in to make a special map: the Navy was running a degaussing project—the development of electrical charges on ships that would not set off mines placed in the harbor. She assisted him in making the blueprints—and the rest is history! (There continue to be degaussing projects in harbors today, in San Francisco as well as in other ports).

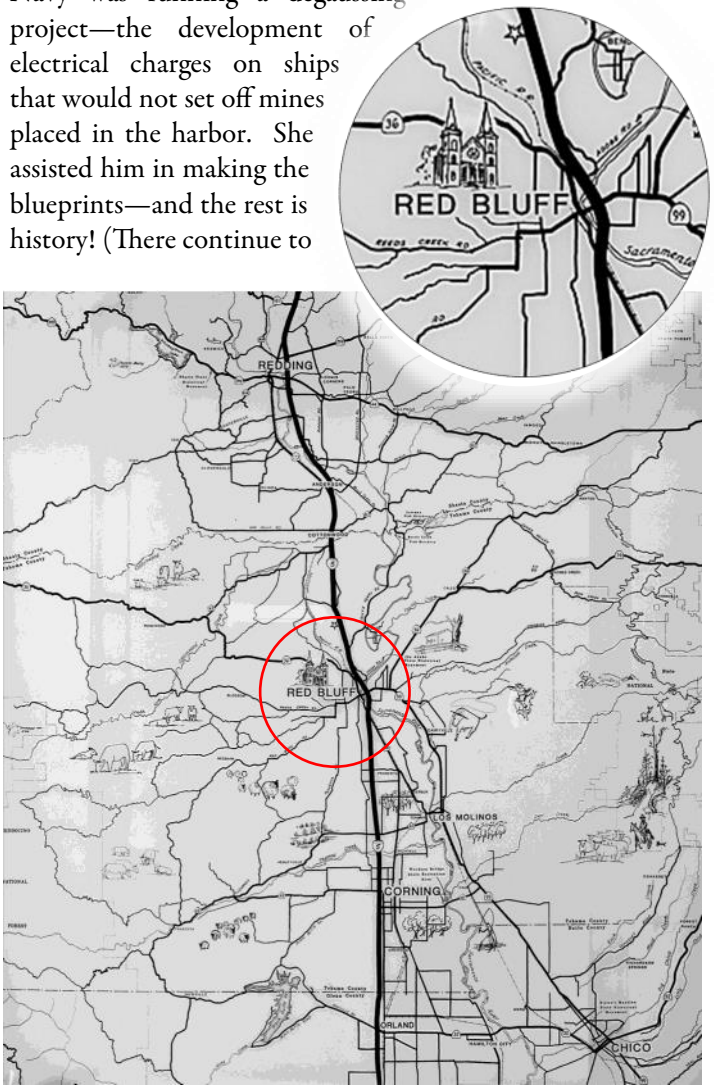


Figure 1. This map was pro ably used for an information sign at an I-5 rest stop. See the animals and buildings inserted into the drawing. Image courtesy of Paul Woodford. Detail by Publisher.

Her husband Stephen was still in the Navy when they married, and was stationed on the East Coast. Several years after his discharge, they moved to Redding, CA, where Agnes worked at Adams and Riser Engineering, and also did freelance drafting in architecture until, in 1962, she began her career with the California Department of Transportation (Caltrans).

At that time, Caltrans was preparing to build Interstate 5, its biggest project, which was constructed over the original State Route 99, from Northern California to the Oregon border. Maps were still being hand-drawn, and Agnes created maps for this project, making several trips to survey the areas along the route. (*Fig. 1*) Interstate 5 was designed and redesigned several times, as considerations of the optimal course for the road evolved over time, creating the need for the several versions of Agnes' route map drawings. She began mapping

the original State Route 299, and then moved on to the various Interstate 5 maps. In addition, she worked on design improvements for the interfaces between Interstate 5 and State Highway 299E and W, as well as State Route 44. She also drew maps for Highway 299, stretching from Eureka to the Nevada border. As Agnes traveled to the various areas in order to view the land and the structures, she drew hand sketches of the proposed road changes, which were then used by Caltrans to make models. Both her sketches and the models (*Fig.'s 2 & 3*) gained rapid approval from the State of California for these projects.

Agnes was the only woman working on maps in the Redding office's Right of Way Drafting Department, and just one other woman, "Babe," worked in another department. Having specialized in right-of-way maps, she was eventually put in charge of archival maps, and helped to permit right-of-way routes for people with oversize vehicles. Maps continued to be hand-drawn, and copied using blueprint machines, during all of her time at Caltrans.

During her years at Caltrans, CAD (computer-aided design) drawing, used in the present, remained far in the distant future. Her drawings were made on Linen, Vellum, or Mylar, using India Ink. Agnes had wonderful hand-lettering skills, and could change her style to match any existing text on the map. Eventually, Caltrans moved away from hand-lettering, and used the LeRoy lettering machine for writing on maps.

Sadly, Agnes developed medical problems, and retired from Caltrans at 55, in the early 1980's. Dedicated and still enthusiastic about her work with maps, she continued to do freelance work. One of her special projects was drawing map illustrations for a book on the history of California. Her son, a sailor, made several crossings from San Francisco to Hawaii, and Agnes drew special latitude maps for him, showing the coast of California, the shapes of the islands of Hawaii, and the various routes he had sailed as navigator.

In 1983, Agnes began working for the Shasta County Historical Society, (*Fig. 4*) making maps showing county roads from 1850 to the present day. She also mapped locations of known Native American tribe territories and camps, as well as the travel routes of early explorers in those areas and the lands that they owned. She retired from the Society in 2007.

The mother of three daughters and two sons, Agnes was devoted to her family. She also enjoyed sailing, rock hounding, photography golf, enamel and jewelry-making (perhaps from her early school experiences?) traveling, and her many close family and friends. Her eldest daughter followed in her mother's footsteps, drafting for architectural and engineering firms. Agnes passed away in 2008 in Redding, CA.

Figure 2. Example of drawings made for Caltrans showing various road alternatives. Sometimes scale models were created to show the proposed road changes and may have been used for design concept approvals and legal negotiations. Photo courtesy of Paul Woodford.

Figure 3. One of several retaining wall illustrations prepared for Caltrans. This type is a concrete crib wall. Image courtesy of Paul Woodford.

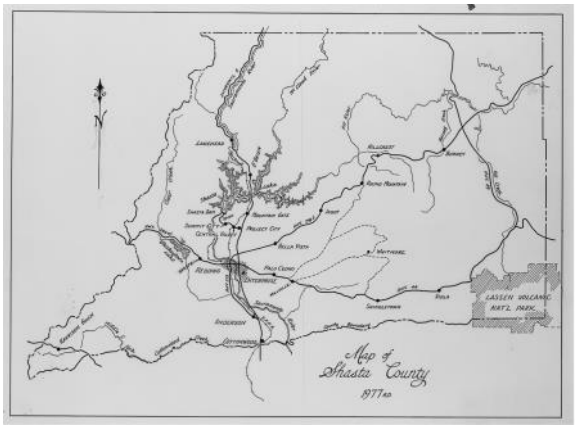


Figure 4. This map was for her Shasta County historical work—1977 roads. Image courtesy of Paul Woodford.

A special thank you to her daughter, Margaret Fago, her son, Bob Woodford, and her grandson, Paul Woodford, for sharing information, memories, and photographs of her work for this article.

Lake Tahoe in Maps: A History of Names

Sierra Sakrison

This history of naming Lake Tahoe can be closely tracked through the maps produced as U.S. interest grew in the West. These maps, through their artistry, can illuminate how Lake Tahoe tied into state politics, business, and culture starting in the mid-20th century. The history of Lake Tahoe's name begins rightfully with its first inhabitants, the Washoe people or Wá·šiw. For over 5,000 years, the Wá·šiw called Lake Tahoe "dáʔaw" (pronounced "da ow a ga"). Like most native peoples, their lifestyles revolved around the environment; the people were part of the environment, and everything was provided by the environment. Today, roughly 1500 enrolled members of the Washoe Tribe of Nevada and California live on Tribal lands, "Colonies" throughout Reno, Carson Valley, and Gardnerville areas of Nevada and in Woodfords, California[1].

Following dáʔaw, the first non-native name for Lake Tahoe, came into place when John C. Fremont, an American war general, explorer, and cartographer, was sent to find and publish routes, including locations in Nevada and California. While his efforts for creating maps and recording routes to help people settle in the West were an extraordinary triumph, he is mostly remembered as being the first Republican party candidate to run for president in 1856. On February 14th, 1844, Fremont and Charles Preuss, his cartographer, were the first recorded white "discoverers" of Lake Tahoe[2]. At that moment, Fremont began to call Lake Tahoe "Mountain Lake," while Preuss called it "Lake Bonpland", naming it after Aime Jacques Alexandre Bonpland, a French botanist. Fremont's first and second expeditions, which began in 1842 and continued through 1844, led to a report featuring descriptions of "Mountain Lake" or "Lake Bonpland", along with a beautiful map. The report, written with the help of his wife, a skilled writer, was published by Blair & Rives in Washington D.C., with the original copy in the Library of Congress. In 1846, excerpts from his book were published in numerous newspapers, lending to migration westward.

The next map, drafted by Fremont around 1849, was mostly topographic. In this map, Lake Tahoe is called "Bonpland" and showcases Northern California's first major settlement, New Helvetia (*Fig. 1*). This settlement was built by indigenous laborers on land taken by white settlers. New Helvetia (which became Sacramento) was founded by John Sutter in 1839 along the American River with Native Americans and settlers from Mexico. Mexican influence is prevalent in Fremont's map through the use of names such as "Rio Sacramento" and "Rio De Las Americanos"[3]. The territory was expanded in 1842-1844 into "Rancho Nuevo Helvetia," using native laborers from the Miwok (or Mewuk) and Maidu tribes.

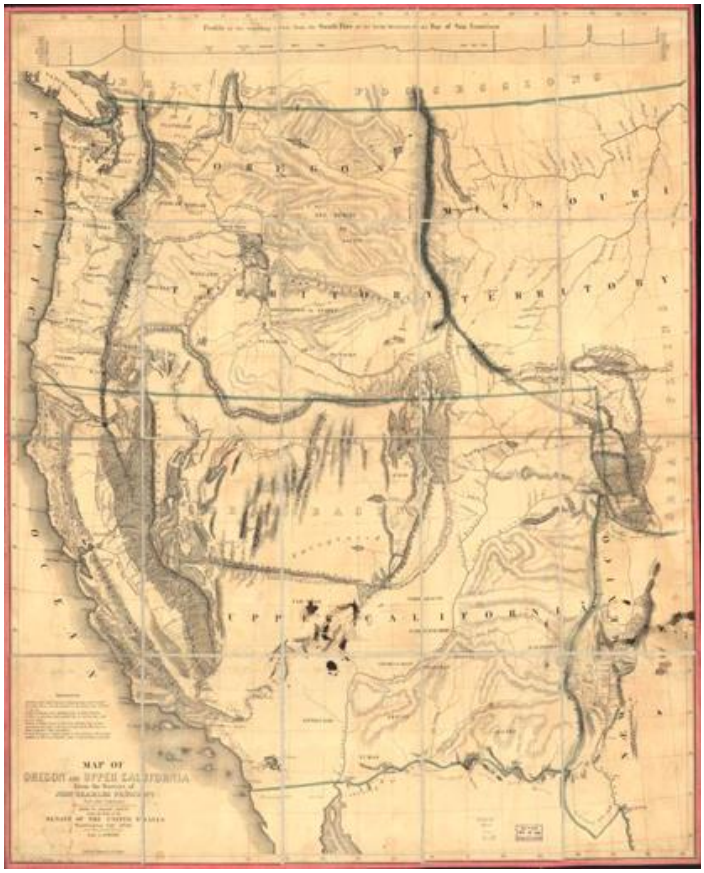


Figure 1. *Map of Oregon and Upper California*, 1848, by John C. Fremont. The name "Bonpland" is used here, as well as "Rio Sacramento" and "Rio De Las Americanos", showcasing the Mexican influence of the area. Image Source: https://www.loc.gov/resource/g4210.ct000910/?r=-0.023,0.967,0.504,0.232,0

When California was officially granted statehood in 1850, a new map was published, which included Oregon, Utah, and New Mexico. It's important to point out that Oregon and Utah are shown covering areas well outside their current boundaries, while New Mexico actually covered more land east than what was shown on the map, noted as the "cheif part of New Mexico" in the map (*Fig. 2, next page*). With this map, created just ten years prior to the civil war, these new states played a critical role in aiding Union support. The map here calls Lake Tahoe "Lake Bonpland."

In 1853, Lieutenant Williamson began a geological survey to find the best routes for the Pacific Railroad Co. as the U.S. ventured West. During his explorations, he both illustrated and provided information on native populations in the West. His explorations ranged from the Mississippi River to

Figure 2. *A New Map of the State of California, the Territories of Oregon & Utah, and the Chief Part of New Mexico,* 1850, by Thomas Cowperthwait & Co. Oregon covers what was soon to become Washington three years later, Utah covers Colorado, and New Mexico actually covered more land east than what was shown, noted by the "cheif part of New Mexico". Lake Tahoe is also referred to as "Lake Bonpland."

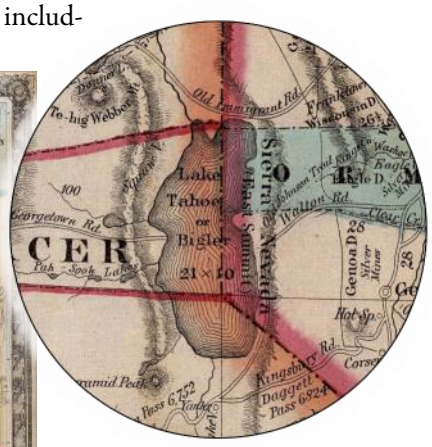
the Pacific Ocean. Intended for use by the War Department, the maps helped fuel the political fight over the transcontinental railroad. Williamson was later joined by H.L. Abbott and John S. Newberry, a surgeon, geologist, and botanist. Following the expedition, Newberry went on to publish his findings in one of the most useful botanist reports of the time. Shortly following in 1854, California's Democratic majority state legislature renamed Lake Tahoe "Lake Bigler" to honor California's third governor, John Bigler. Over the next decade, however, "Mountain Lake" and "Maheon Lake" were still popularly used to refer to the lake[4].

In 1860, nearly ten years after becoming the state of California, Samuel Agustus Mitchell Jr., a map maker experienced in making maps for classrooms, created the California County map. This map features Placer, El Dorado, and Nevada counties, all of which remain today (*Fig. 3*). Two years later, in 1862, another name was given to the lake when mapmaker William Henry Knight and his colleague Dr. Henry DeGroot heard the name "Tahoe" and believed it to be a local tribal name meaning "water in high place." They proceeded to telegraph the land office in Washington D.C. to have all federal maps changed to "Lake Tahoe" (*Fig. 4 & insert*). However, it wasn't until 83 years later, in 1945, that the California legislature made "Lake Tahoe" the official name[5].

In 1872, the Asher & Adams Railroad hand-colored map was published in New York, using the name "Lake Tahoe." Asher & Adams, known for their atlases, also had some of the first maps to feature railroad lines. A map they published in 1876 featured early lines, including the Napa Valley or Cal Pac RR, Bloomfield RR, Visalia RR, Stockton RR, Virginia RR, and Truckee R.R. The map also highlighted several gold and silver boom towns and ghost towns in Nevada and California. Here, we see the use of the name Lake Tahoe. The transcontinental

Figure 3. *County Map of California*, ~1860, by Samuel Agustus Mitchell. The counties Placer, El Dorado, and Nevada all still exist today. Image Source: http://www.davidrumsey.com/maps2911.html

Figure 4. *DeGroot's Map of Nevada Territory*, 1863, by Dr. Henry DeGroot. Lake Tahoe is referred to as "Lake Tahoe or Bigler." Image Source: David Rumsey Map Collection http://tinyurl.com/49md7xez



railroad ran through Truckee in 1872, but had no connection to Tahoe City until 1900, when D.L. Bliss started the Lake Tahoe Railway and Transportation Company[6].

There is a clear progression of maps featuring Lake Tahoe. The first maps, beginning in the mid-1800s, had a heavy emphasis on topography. Slowly, the maps evolved, and started to emphasize human-centric features in the mid-1900s. This evolution also captures the lack of consensus around Lake Tahoe's name, illustrating the relevance and importance in history of maps as records of culture, politics, and business.

Thank you to the Peer Family and the Gatekeeper's Museum in North Lake Tahoe for providing information on these early maps of Lake Tahoe.

Endnotes

[1] "Lake Tahoe Basin MGT Unit - History & Culture." Forest Service National Website. http://tinyurl.com/4huy7mt9

[2] *Discovering Lake Tahoe, Historical Maps*. (Tahoe City, CA: The Gatekeeper's Museum June 6-September 15th, 2023)

[3] Ibid

[4] *Discovering Lake Tahoe, Historical Maps*. (The Gatekeeper's Museum)

[5] Ibid

[6] Ibid

Sierra Sakrison earned her B.S. in Environmental Sciences from the University of California, Santa Cruz. She is currently helping write grants for the North Lake Tahoe Historical Society (NLTHS). NLTHS, an umbrella organization to the GateKeeper's Museum, The Marion Steinbach Native American Basket Collection, and the Watson Cabin, is dedicated to educating the public on the history of North Lake Tahoe and preserving this history for future generations.

CARTO-QUIZ

Answers

United Arab Emerates

Panama

Venezuela

Germany

Mapping Fiction in StoryMaps

Susan Straight

Both of my fathers loved maps, and of all their combined children, the only one obsessed with road atlases, travel maps, and GIS technology has turned out to be me. My biological father, Richard Straight, became a traveling salesman who stocked liquor and cigarettes to bars, gas stations, and stores along a vast route from San Bernardino to Needles, on the Arizona border. He left my mother when I was three. As a child, I rode often with him in his Mustang, and later, in his little Ford truck, where he showed me how to use the atlases and maps of his routes.

My mother married my stepfather a short time after her divorce. I was the youngest of my natural father's seven children—including four stepkids—and the oldest of my stepfather's six children—including four foster kids. My mother bought me my first book when I was three, and from that day on, fiction was my life. I read to escape chores, to leave behind our crowded house, my sometimes dangerous neighborhood, and to see the rest of America. I read my favorite library books over and over—*Betsy Tacy*, by Maud Hart Lovelace, set in Mankato, Minnesota; *My Friend Flicka*, by Mary O'Hara, set near Cheyenne, Wyoming; *The Mixed Up Files of Mrs. Basil E. Frankweiler*, by E.L. Konigsburg, set inside the Metropolitan Museum of New York. I looked at our Rand McNally Road Atlas of America to see how far away these places were.

My stepfather took us camping across the West, and I held the road atlas, tracing the freeways, highways, rural roads, and dirt tracks we took. I also had charge of the Trip-Tik, the small spiral-bound book of custom pages made for Automobile Club of Southern California members for their journeys, showing every stream, valley, and mountain peak, including altitude. When I married and had my own three daughters, they knew the glove compartment would always contain maps.

When my father died, in 2018, and then my stepfather, in 2021, I inherited two precious Thomas Guides (*Fig.'s 1 & 2*), which sit on my desk. The Thomas Guides, begun in 1915 in Oakland, California, are spiral-bound books of detailed street maps for large cities in America, revered like bibles by travelers. I especially loved studying the grids for Los Angeles, the tiny cul-de-sacs, the ribbons of freeway. Those Thomas Guides helped me begin the massive project of creating a map of American fiction.

For the past seven years, I've been passionate about finding the exact GIS locations of hundreds of books set all over the country, from classics published in the 1700s to novels published in 2023.

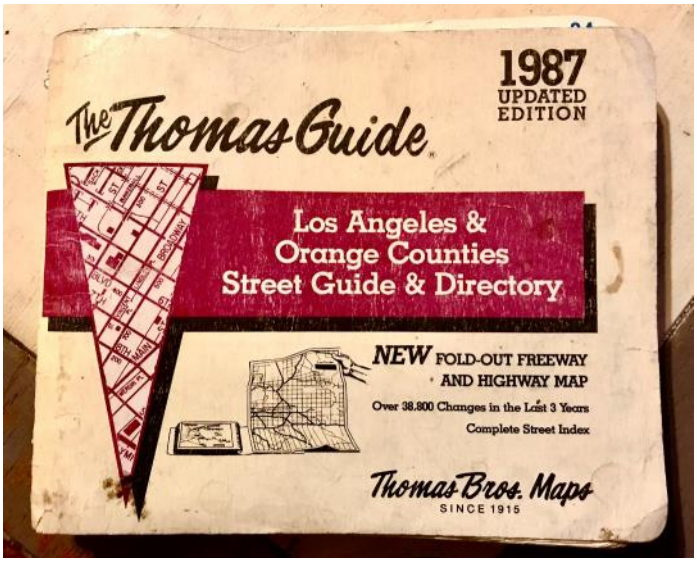


Figure 1. The 1987 Thomas Guide from John Watson, my stepfather

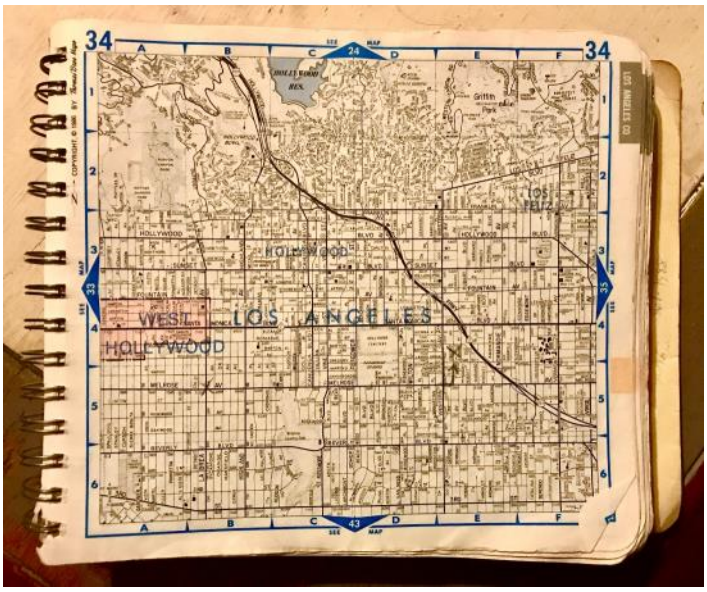


Figure 2. Sample page from the 1987 Thomas Guide.

In January 2016, I began working on my project with a 1998 edition paper map of the U.S., given to me free at my local Auto Club for a camping trip with my own three young daughters. Constructing a map of narrative about home and place, characters who stay or leave or return, people whose families might have been in one location for nine generations or might have just arrived, seemed to me a beautiful way to look at this country, which had been diminished to red state/blue state by politics.

I stacked up books I'd read since childhood with the books I'd read recently, state by state. On a notepad, I wrote title after title, author after author, often knowing exactly where the story was set. In a kind of fever, titles and places came to me for weeks, wherever I was—driving, walking with the dog along the Santa Ana River, teaching my classes. I live

only three blocks from the hospital where I was born, here in Riverside, California, and though as a novelist, I've traveled around the country and the world, I've always journeyed best through fiction. In my car, I wrote titles on expired auto registration cards, on the backs of grocery lists, on napkins from Del Taco. At home, there were Post-Its, magazine subscription cards, and the notebooks. The map, laid out on the kitchen table, was soon covered with scraps of paper (*Fig. 3*).

Practically, though, I wondered what I was doing. How would anyone print a map of fifty states crowded with book titles? One night I asked my neighbor, Christian Harder, who worked at the global mapping company Esri, if he could print out a large U.S. map for me. He arrived with an 11x14 copy, a puzzled look on his face, and, when I showed him the kitchen table, said, "But Esri could make this with StoryMaps."

Christian, Esri Press author and editor, put me in touch with Allen Carroll, based in Washington, DC. Previously at National Geographic for 27 years, including a post as chief cartographer at National Geographic Maps, Allen was now Program Manager for Storytelling and StoryMaps, which had begun in 2012. Allen was excited about the idea of narrative layers of the nation, and I couldn't believe I was actually speaking with the man who'd made the iconic maps my stepfather pored over for hours.

Esri published an early incarnation of the literary map in July 2017, with 737 Novels, in conjunction with the literary magazine *Granta*. But I kept reading and adding more novels and story collections to my own spreadsheet, and realized we could make an even more elaborate and beautiful map by using regions. Since 2015, I'd been driving across the country with my dog, from California to Prince Edward Island, Canada, carrying books set in the places I passed through –Willa Cather's Red Cloud, Nebraska; Toni Morrison's Lorain, Ohio; Stephen King's Lisbon Falls, Maine. In the passenger seat—that same 1998 map with which I had begun my project.

At my kitchen table, I spent weeks choosing regions, surprising both myself and Esri by selecting regions held together by mountain ranges, or defined by oceans as much as by history. The Post-Its of my analog mapping life came out again—moving endlessly as I tried to define the heart of the Midwest, and where to put Pennsylvania. I created evocative titles for each region, feeling chills at the decades of reading those places, feeling as if I knew them so deeply through story, and writing introductory essays for each section.

Then I worked with the stellar Esri team of Allen Carroll and Content Strategist Lee Bock, who was very patient while I found latitude and longitude coordinates for the home of each book.

As Allen says in his blog post about the project:

"Each novel was assigned to its literary region, as defined by Susan;

Figure 3. The Automobile Club of Southern California US map.

The order of the books in each U.S. state was optimized by proximity to other books, so that the reader's browsing path through the bookscape would be as smooth as possible; and a final process (repeated as necessary) loaded the spreadsheet data and accompanying book cover art into an ArcGIS feature layer with attachments."

The biggest difference, this time, was how I found the exact GIS locales for books. I'd always re-read books to find a hotel, a street, a park, a lake, a school—the right place for a pin that would mark the book's location. I did this again, staying up late each night to find the right 7-11 for a book set in Florida, or an apartment building in Harlem, NY. But I also followed writers on Instagram, and if I needed help, I DM'd them to explain the map, and to ask their own choice for the precise heart of their work. Lysley Tenorio told me about a Target store in Colma, California; Tope Folarin about an elementary school in Bountiful, Utah; Kirstin Valdez Quade about a fictional tiny town based on her homeplace near Pena Blanca, New Mexico. (*Fig. 5, next page*) I enjoyed these conversations, and locating the places on Google Maps. My favorite was Kelli Jo Ford, sending me a pin for the Oklahoma home where she had spent time with her grandmother—now only the remains of a foundation, but still vivid in her novel. (*Fig. 4, next page*)

For one novel, though, I had to return to my beloved analog maps. Michael Connelly has published thirteen novels in the Harry Bosch series, featuring an LAPD detective whose mother, a call girl, is murdered and left in an alley. We're friends, and I told him I chose *The Last Coyote* because, in that book, Bosch is determined to find his mother's killer. The alley, in the 1700 block of Vista Street (*Fig. 6, next page*) , between Hollywood and Sunset Boulevards, wasn't visible with Google Maps. I got out the Thomas Guide, and found it immediately, using the index and grids.

With beautiful graphics and ease of navigation for the more than 80,000 people who have viewed the map, our project, 1001 Novels: A Library of America, was published on Memorial Day, 2023, in conjunction with the *Los Angeles Times*, with the book covers and two-line synopses which took me weeks and weeks to finish.

Countless readers have emailed to say they toured their home state, they cried when finding a novel set in their small town or village, or they visited a place they could never actually travel to—with the map.

I keep my two Thomas Guides close—thinking of my dads, both of them, driving thousands and thousands of miles, carrying cartons of cigarettes, carrying children and sleeping bags, and teaching me how integral are maps and navigation and the stories we tell, for us, riding in the vehicle, and for the world outside our windows.

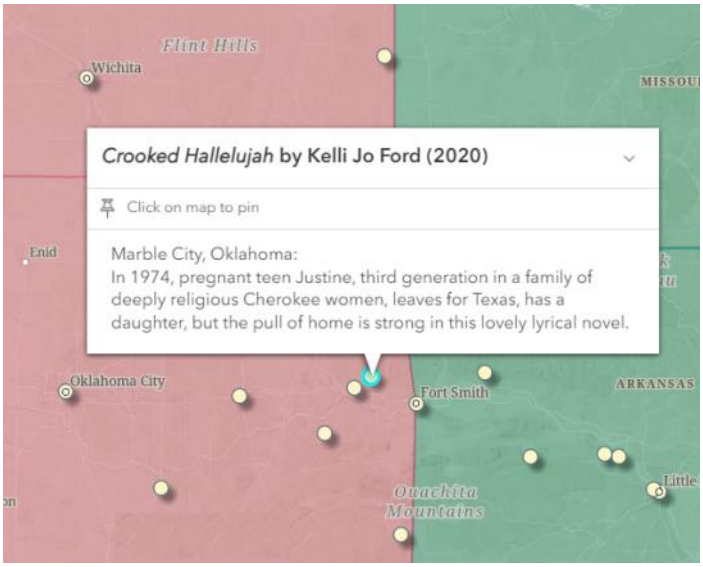


Figure 4. Marble City, Oklahoma is the heart of the novel "Crooked Hallelujah."

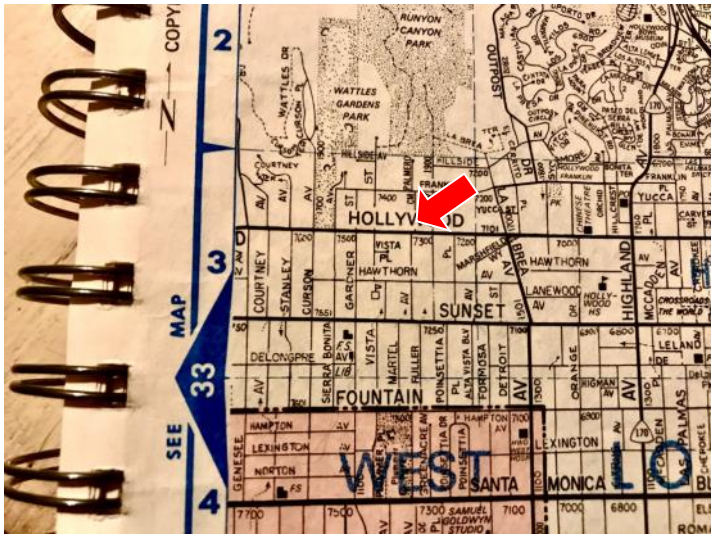


Figure 6. Location of the fictional death of Harry Bosch's mother in Michael Connelly's *The Last Coyote*.

To access StoryMaps, please visit:
http://tinyurl.com/2bj9ue4v
Or scan the QR code below.

Susan Straight is the author of ten books, including *Mecca* and *In the Country of Women*. She is Distinguished Professor of Creative Writing at U.C. Riverside.

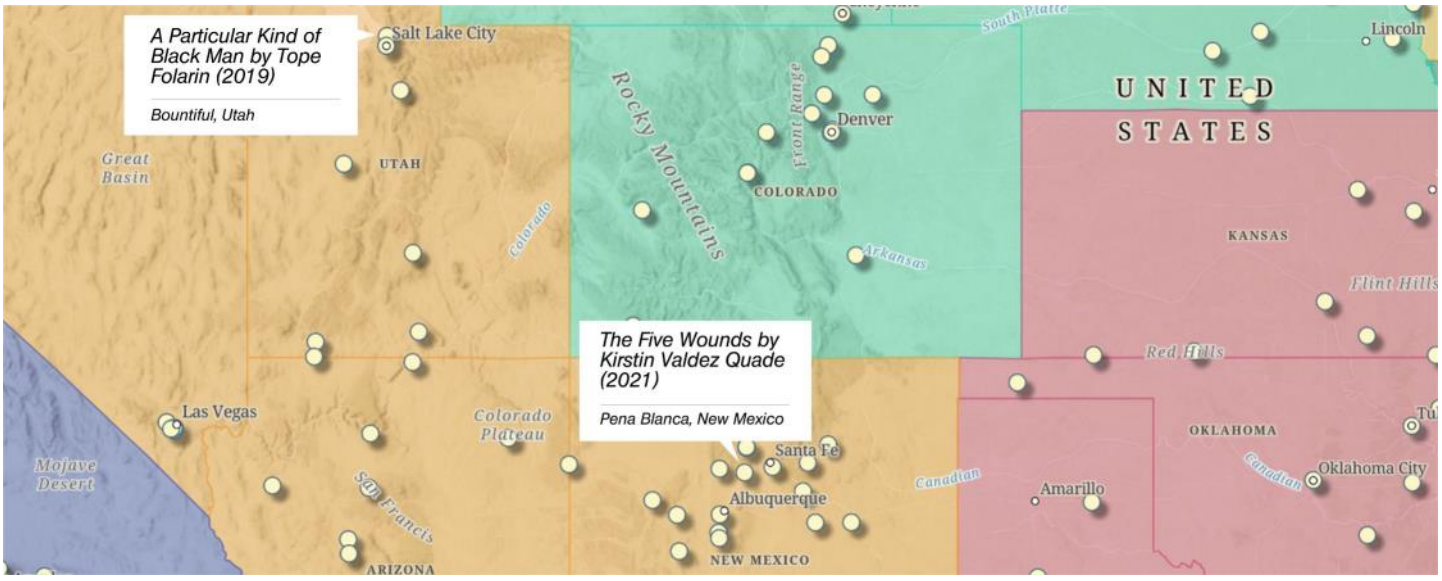


Figure 5. "A Particular Kind of Black Man" by Tope Folarin and "The Five Wounds" by Kirstin Valdez Quade. (StoryMap captions shortened)

Constructing Similarity and Difference:
The Ethnographic Mapping Effort of the Imperial Russian Geographical Society

Heiko Mühr

The Imperial Russian Geographical Society (IRGO) was chartered in Saint Petersburg in 1845, on orders from Czar Nicholas I, to encourage geographical research on domestic topics. This focus on the territory of Russia and nearby areas recognized the scholarly society's interest in funding research and expeditions in particular regions of the Russian Empire. Filial societies were subsequently established, including one in Kyiv in 1873. IRGO published travel accounts and research reports in countless volumes, and the society's departments for mathematical geography, physical geography, ethnography, and statistics also produced a steady stream of maps. Steven Seegel states that "three means of borderland mapping, military-topographic, educational-pedagogical, and ethnographic," emerged, and guided decision-making by the empire's civil servants and scientific experts "across the tsars' advisory ministries", which were administering the westernmost territories of the Russian Empire. IRGO served as the principal institution connecting these ministries, "established to improve the knowledge and administration of territories from core to peripheries." The work of the Imperial Russian Geographical Society, "its effort in knowing the borderlands was far from a simple scholarly endeavor—its procedures in gathering and generating such knowledge were linked closely to the state's internal ministries" (Seegel, 2012).

The scholarly society's output of ethnographic and linguistic maps covering the Russian Empire's westernmost reaches deserves particular attention. IRGO engaged cartographers, geographers, linguists, folklorists, and statisticians to collect information on the distribution of ethnic groups and their communities in the Western provinces. These IRGO maps were clearly produced to make geopolitical arguments and to shape political discourse. Steven Seegel saw three reasons for IRGO's effort: 1. To organize, structure, and rationalize the bewildering ethnic diversity of the Czarist Empire's westernmost provinces. This would enable administrators to make those ethnic distributions intelligible, and to "see", "organize," and identify useful categories to break down complexities; 2. To publicly claim the Czarist Empire's right to map and explore other areas and populations, and to publish and display the results, akin to the colonial mapping which Western European powers had pioneered; 3. To produce maps that could serve as tools for decision-makers and policy-makers who were interested in assimilating the populations in the western borderlands and to enable power brokers who pursued this course to turn these colonial subjects into true Russians and true Orthodox believers (Seegel, 2012).

The Lithuanian cartographic historian Vytautas Petronis has shown that this signified a break with the functional and practical focus of the long-lasting Petrine tradition of state-sponsored Czarist cartography. Early Russian scientists had acted as observers: ethnographers, surveyors, topographers, geodesists, geographers, and botanists recorded evidence and diligently gathered information. Decisions about where to interfere, or how to act in specific circumstances were made by the Czar and the imperial power brokers. By the mid-19th century however, "Russian science was influenced by new and different political ideologies, such as Pan-Slavism, or nationalism. Scientists gradually became involved in government programs, which aimed to introduce large-scale changes." State employees inserted themselves into the policy-making process, sought to influence decision-making, and hoped to shape government policy by providing targeted information for state interventions and restructuring (Petronis, 2007).

Figure 1. The Ukrainian ethnographer and statistician Pavlo Chubynskyi. His poem "Ukraine Has Not Yet Perished," published in the collection *The Reed Pipe*, is the text of the national anthem of Ukraine. Source: Internet Encyclopedia of Ukraine. http://tinyurl.com/y7raft46

How did this fundamental change come about? The expansionist policies of Catherine II, and the annexation of the eastern half of the Polish-Lithuanian Commonwealth into Russia in the late 18th century (1772, 1793, 1795), propelled the Czarist Empire westward. During the first fifty years after these lands had been annexed, czars and imperial decision-makers showed little interest in the ethnic makeup of the population. This changed dramatically with the failure of the Polish November Uprising of 1830-1831, after which Czar Nicholas I stepped up his repressive policies, and extinguished or undermined autonomous Polish institutions. Polish mapping organizations were closed, and, between 1830 and 1850, the Russian Empire's Corps of Military Topographers focused

its energy and resources in the western borderlands of the Czarist Empire (Snyder, 2003; Seegel, 2012).

The Polish nobility remained a prominent group in these newly-acquired Russian territories, even after the failure of the Polish January Uprising of 1863-1864. A succession of Czarist governments then began to pay close attention, fearing that Polish leaders might be able to mobilize Ukrainians, Belarusians, and Lithuanians for an alternative nation-building program that would undermine Czarist power and prestige. Those fears were well-founded: after all, shared historical and cultural ties between these groups ran deep. Roman Szporluk noted that, in Ukrainian lands, "the Poles retained great social and cultural influence until after the Russian revolutions of 1917." Throughout "the nineteenth century, whether Ukrainians lived under the rule of the tsar in St. Petersburg or the emperor in Vienna, the Polish influence remained very substantial" (Szporluk, 1997).

The Czarist regime worked hard to develop a durable administrative-territorial structure in the Western provinces. However, in the 1830s and 1840s, partly in response to scientific investigations, political debates, reforms, and political upheaval, Russian officials embraced a new outlook, and gradually came to see these vast provincial lands differently, as part of an "empire of regions," a term coined by the Russian historian Leonid E. Gorizontov. Cartographic historians have embraced Gorizontov's ideas and agree that a "process of (unofficial) ethnic regionalization began" about 1850. Catherine Gibson has argued that "From the mid-19th century to the beginning of the 20th century, the Western region was perceived as being split into the Lithuanian, Belarusian, and Ukrainian ethnic lands. This process was clearly revealed in the proceedings of the ethnographic expeditions and ethnographic maps of the time" (Gorizontov, 2007; Petronis, 2011; Gibson, 2022).

The Imperial Russian Geographical Society contributed greatly to this changed perception both through its ethnographic explorations of the Western borderlands and its publications and ethnographic maps, which visually documented the existence of vast ethnic regions within the Czarist Empire populated by non-Russians. Czarist officials, and subsequently the educated public, re-envisioned the Russian Empire as a multi-ethnic state, made up of distinct regions. The mapped ethnic territories populated by Ukrainians, Belarusians, and Lithuanians gradually came to be seen as "ethnic homelands" and as the real building blocks of the Czarist Empire's western borderlands. But the changes did not stop there: with the rise of national movements throughout Europe in the 19th century, the various regional intelligentsias began to consciously define their ethnic spaces, build up ethnic institutions, search for the boundaries of their ethnic homelands, draw maps, draft political manifestos, and issue calls for cultural and language rights (Gibson, 2022).

Some of the earliest ethnographic maps of Central and Eastern Europe were produced in the Habsburg Empire. The pioneering Slovak philologist Pavel Jozef Šafařik included an ethnographic map in his *Slavic Ethnography*, which was published in Prague in 1842. It identified both the distribution of the Slavic peoples and the territories settled by Slavs. Šafařik's map likely inspired Mykhailo Kossak, publisher of the almanac *L'vovianyn*, to include the first ethnographic map of Ukraine in its inaugural issue, which was produced in Lviv, in the Austrian province of Galicia, in 1861. Some of these maps set cultural expectations, and came to define form and content of the ethnographic map genre, when standards of measurement and notation were discussed at International Statistical Congresses between 1853 and 1876. A notable example is the celebrated *Ethnographische Karte der österreichischen Monarchie (1855),* compiled by the Austrian statistician Karl von Czoernig (Gibson, 2022).

The first ethnographic map of European Russia, issued by the Imperial Russian Geographical Society in 1851, was compiled by the Russian academic and government official Peter von Köppen (1793-1864)(*Fig. 2*), who was born and educated in Kharkiv, where he grew up in a German-speaking family. Köppen was the first head of IRGO's statistical section. He did not distinguish between the East Slavic identities, since they were all considered to be Russians. However, his map identified other ethnic groups, such as Lithuanians, and thus emerged as an important source for delineating the boundaries of the Lithuanian homeland. Köppen, like other Russian ethnographers of that time, generally identified Ukrainians as Little Russians, who formed part of the tripartite Russian nation, together with Belarusians and Russians. The emerging Ukrainian national movement, by contrast, questioned these assumptions, and argued that the southwestern borderlands were populated by a distinct group of people who were neither Russians nor Poles. Discussions in the ethnographic section of the Imperial Russian Geographical Society had meanwhile shifted, and gradually opened the possibility of exploring and investigating the diversity within the tripartite Russian na-

Figure 2. The Russian statistician and geographer Peter von Köppen, also often identified as Pyotr or Petr Keppen. Source: Wikipedia.
https://www.wikidata.org/wiki/Q2988972
https://www.wikidata.org/wiki/

Figure 3. *Map of South Ruthenian dialects and languages*, compiled in 1871 by Kostiantyn Mykhalchuk and Pavlo Chubynskyi. Source: Reddit. http://tinyurl.com/yc2av973

Figure 4. Part of the ethnographic map by Aleksandr Rittikh, 1875, recompiled, using GIS. The map shows 21st century international boundaries. Source: Wikimedia. http://tinyurl.com/yzk8kkjf

tion. Already, in 1851, a prominent linguist, Izmail Sreznevskii, had argued for a map of languages, dialects of speech "that would highlight the linguistic diversity of peoples", and had called for a detailed study of the "geography of the Russian language" (Petronis 2011, Gibson, 2022).

These ideas were put to the test when the Imperial Russian Geographical Society hired Pavlo Chubynskyi (1839-1884) (*Fig. 1, first page*), a graduate of the Faculty of Law at Saint Petersburg University, to lead an ethnographic expedition to Ukraine, Belarus,

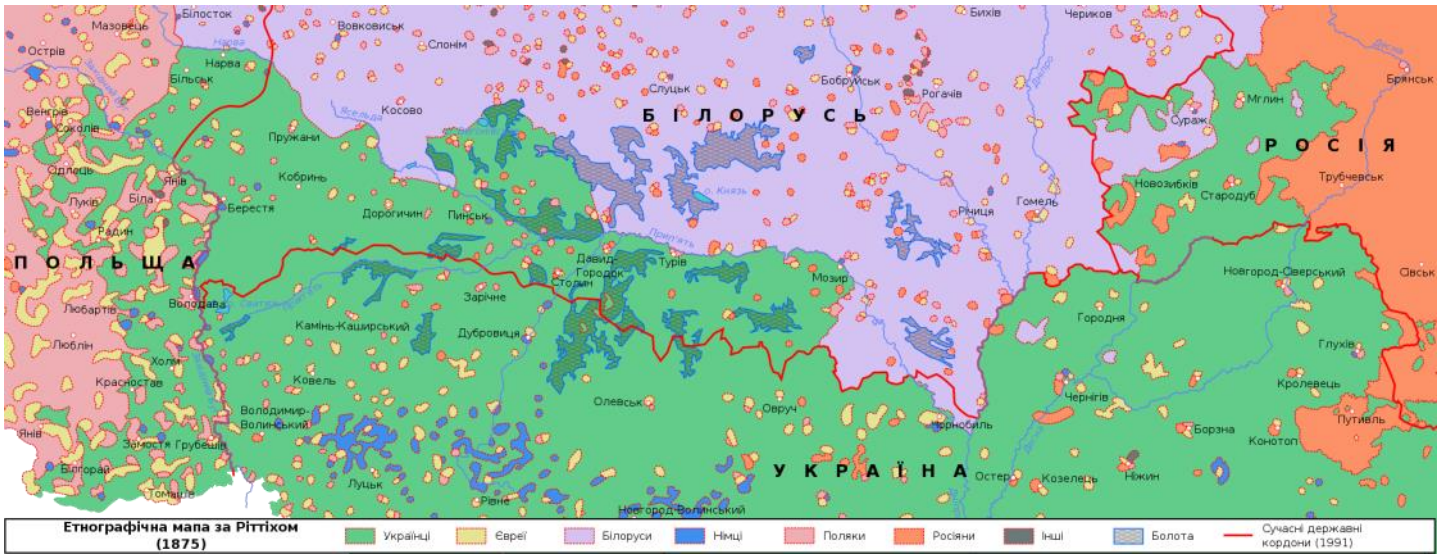


Figure 5. A fragment of the ethnographic map by Aleksandr Rittikh with northwestern borders of Ukrainians, 1875. Source: Wikimedia. http://tinyurl.com/ye8cnk2h

and Moldova (1869–1870), and to study the daily life, customs, dialects, folktales and folk beliefs of the local inhabitants. Kyiv's Ukrainophiles rallied behind his pro-Ukrainian leadership, and supported Chubynskyi when he established and headed the short-lived Southwestern Branch of the Imperial Russian Geographical Society, which existed in Kyiv from 1873 to 1876. IRGO published Chubynskyi's report, *Works of the Ethnographic-statistical Expedition to the West-Russian Region* in seven Russian-language volumes between 1872 and 1879, with associated ethnographic and linguistic surveys, as well as collections of Ukrainian songs and folklore. The linguist Kostiantyn Mykhalchuk (1841-1914) first conceptualized the still-accepted tripartite division of the dialects in the Ukrainian language into northern, southwestern, and southeastern varieties, and produced the first detailed dialect map of the Ukrainian language (1871) as part of this expedition (*Encyclopedia of Ukraine*, 1993).

Aleksandr Fyodorovich Rittikh (1831-1914), a general in the Czarist military, an ardent Russian nationalist and advocate of Pan-Slavism, compiled a number of important IRGO ethnographic maps in the 1860s and 1870s that focused attention on different parts of the Czarist Empire. Rittikh's work culminated in an impressive ethnographic atlas, his *Population Atlas of the Western Russian Region*, which covers most of Ukraine west of the Dnipro River, Belarus, and a large part of Lithuania. The Earth Sciences and Map Library at the University of California Berkeley is the only institution in North America that owns a copy of the more expansive 2nd edition of this atlas, published in 1864. Eventually, Rittikh compiled his celebrated six-sheet *Ethnographic Map of European Russia* (1875) (*Fig. 4, prior page & Fig. 5*) for IRGO, the culmination of his efforts (Gibson, 2022).

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Heiko Mühr, a frequent contributor to Calafia, works with cartographic resources every day as Map Metadata & Curatorial Specialist at the University of California Berkeley's Earth Sciences & Map Library. Heiko is the map cataloger for the Berkeley campus. He studied modern history at the University of Hamburg and at Indiana University Bloomington.

My Favorite Map

Railroad Map of the City of San Francisco

Nathaniel Bernstein

Figure 1. Railroad Map of the City of San Francisco in *Appletons' Hand-Book of American Trave* ,1867.

You can learn a lot about a city by looking at a map. As a land use attorney, I spend much of my time looking at maps to help clients figure out what they can build, and where they can build it. City maps change constantly, as streets are renamed, new land is dredged up, and the birth and death of major landmarks, such as bridges, ballparks, and Ferris wheels, reshape urban landscapes. Maps may reflect not only where cities are, but where they have been, and where they are going. That is why the Railroad Map of San Francisco, in the 1867 edition of *Appletons' Hand-Book of American Travel,* is one of my favorites. (*Fig. 1*).

Admittedly, this map of San Francisco is not unusual, or particularly special for the period. However, it appeared extremely unusual and special to me when I stumbled upon it as a college student in an antique map store in Boston. It was the first map I had seen of San Francisco that did not face north, like every map I had encountered as a child growing up in the city. It was one of the first maps I purchased, and spurred my interest in collecting.

This map was not meant to be special. Printed on delicately thin paper, not meant to last more than 150 years, the plainly-designed map of San Francisco was included among many other more impressive maps in the 1867 edition of the *Hand-Book*, which advertised its "copious, well-engraved maps" as a major selling point.[1] The *Hand-Book*, an annually-published travel guide printed in New York and London, was conceived "To meet the increased and steadily increasing demand for a reliable Tourists' Guide and Hand-Book of Travel in the United States and British Provinces" in North America, and ambitiously set out to "embody a larger amount of desirable information for the traveller [*sic*] in this country, than can be found in any other single work extant."[2] Much like a present-day travel guide, it did so by describing travel routes and potential itineraries, listing hotels, restaurants, major attrac-

tions, and other "objects of interest," and by advising readers on organizing side trips through the regions that surrounded major American cities.[3] The *Hand-Book*'s map was a traveler's introduction to San Francisco, a city of great interest to travelers as it grew explosively, and emerged as the "metropolis of the Pacific coast."4 It appears to be as much a reflection of the city's past and aspirations for the future as an account of the city's present.

Figure 2. A near-contemporaneous map tasked with depicting San Francisco as it actually existed. *U.S. Coast Survey of the City of San Francisco and Its Vicinity* (1859).

That is most obvious in the map's west-facing orientation, which oddly locates the city's heart at the bottom of the map sheet. For the mid-nineteenth century traveler, however, facing west may have been most intuitive. As the *Hand-Book* explains, most travelers to San Francisco in the early and mid-1860s would journey by ship from the East Coast. The first transcontinental railroad did not open until 1869, and ships were one of the most common methods of travel. After crossing the Isthmus of Panama and sailing north in the Pacific Ocean toward California, ships entered the Golden Gate of San Francisco Bay from the Pacific *to the west* of the city, which, at the time, did not itself extend to the Pacific. While San Francisco today encompasses the entire cap of the San Francisco peninsula, the *Hand-Book* notes that the city only became visible four miles within the mouth of the bay. Ships would spiral from the Pacific into the Bay, and sail further around the tip of the peninsula, to finally arrive at the city's wharves. The *Hand-Book* describes sailing into the Bay, and that after "Doubling Telegraph Hill, the city bursts upon our vision, rising picturesquely from the bay, which extends southward, like a vast inland sea."[5] Ships docked soon after, and passengers disembarked at one of the city's many wharves, then journeying upward and outward into the city and its many hills. At that time, the city was only a fraction of its current size—possibly even less than the map suggests, which only encompasses one-quarter of the current city. Soon, rail would join ship as a viable travel option, and visitors would arrive in San Francisco directly from the east. By 1873, the latest edition of the *Hand-Book* reflected this new reality with a conformist north-facing map,[6] but local maps built upon the 1867 *Hand-Book* map, and retained its west-facing orientation as the city grew inland from its original core.[7]

Figure 3. As an example: near North Point, the map depicts jagged blocks along the city's shore, while the natural shoreline is depicted within. Block numbers suggest where actual development has occurred.

There are several other indications that this map captures San Francisco in a state of flux. Other maps from the period depict San Francisco as it existed, with limited development and incomplete streets, to provide accurate information for official use. (*Fig. 2*). The *Hand-Book* map, on the other hand, was designed for travelers, and needed to anticipate the city's future growth for travelers' future use. As a result, the map details both the organic contours of the city's natural shoreline and the gridded ambition of future planned development. (*Fig. 3*). Along the northern shore, aqueducts and existing "Black Point Fortifications" (today's Fort Mason) disregard planned streets and blocks (*Fig. 4*). Even more striking, the map projects rows of blocks stretching past the city's shoreline into a cove and over the existing Meiggs Wharf, which extended more than 1,600 feet northward into the Bay. (*Fig. 5, next page*) At the city's core, on its eastern shore, the map depicts the contours of another cove where ships first anchored upon arrival in the late 1840s, and where the bay was first filled to give space to the burgeoning city. (*Fig. 6, next page*). Farther south along the eastern shore, the map incorrectly depicts the hypothetical filling of Mission Bay, which eventually routed Mission Creek between Berry and Channel Streets, rather than the southern route depicted by the map. (*Fig. 7, next page*).

Figure 4. An aqueduct and the "Black Point Fortifications" (later Fort Mason), contrast with the grid pattern for development on the city's northern shoreline. The city's natural shoreline is visible within planned city blocks.

Beyond the shoreline, it be-

Figure 5. Meiggs Wharf projecting northward into San Francisco Bay over hypothetical city blocks.

Figure 6. The original shoreline of the cove at San Francisco's core is shown stretching approximately six blocks inland from its depicted waterfront.

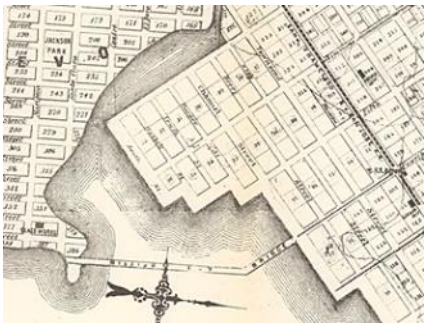


Figure 7. The Map's depiction of the eventual fill of Mission Bay to the south of San Francisco's core. The shoreline is faintly shown beyond Townsend Street, and the eventual fill would route Mission Creek between Berry and Channel Streets northward. In addition to the "Mission Bridge," city streets would eventually connect via Third Street, as well.

comes even more challenging to discern the reality of the city's development. In some areas, existing natural features call into question the development of supposed blocks and streets, such as those overlying the "Lagoon" to the south of the "Black Point Fortifications" discussed previously. (*Fig. 8*). Parcel size may also depict the likelihood of development and type of use, as the subdivision of existing plots is often followed by construction, and different parcel sizes are noted to serve different uses. (*Fig. 9*). The *Hand-Book* describes leafy suburban areas near the city's Mission Dolores church, with "fine gardens" on large plots, and larger divisions of land are clearly visible on the land farther from the city's core.[8] The *Hand-Book* also notes various rail lines in the city[9] that are depicted on the map along with depots and other infrastructure indicating areas that are accessible, notwithstanding uncertain development.[10] The map also labels "Potrer Nuevo" south of Mission Bay, which was a former Mexican rancho granted to the de Haro family that was under title dispute through the 1870s—and therefore unlikely to be the site of major development.[11]

As a travel map, the Railroad Map of the City of San Francisco in *Appletons' Hand-Book of American Travel* needed to strike a careful balance between reflecting the city as it existed, and delineating the City as it could exist in the near future. Doing so was crucial for usability and to prevent the map from quickly becoming out-of-date. Additionally, depicting the city as undersized might even deter and discourage potential visitors. The map treads carefully, both by charting the city's future and by marking its past, and, in so doing, reveals much about the city of San Francisco in a state of transformation.

Figure 8. Commonly known as the "Washerwoman's Lagoon," the freshwater lagoon in the present-day Marina District was certainly not divided by the city's grid in the 1860s.

Figure 9. At the City's core, varying parcel sizes suggest varying intensities of development.

Endnotes

[1] *Appletons' Hand-Book of American Travel* (9th ed.), New York, D. Appleton & Co., 1867, iii.
[2] *Hand-Book*, iii
[3] For example, the *Handbook* described various routes from San Francisco to Petaluma, Lake Tahoe, and the "Yo-Semite Valley." *Hand-Book*, 252-257.
[4] *Hand-Book*, 240.
[5] *Hand-Book*, 240.
[6] *Appletons' Hand-Book of American Travel: Wester Tour*, New York, D. Appleton & Co., 1873, 162.
[7] For example, see *Railroad Map Of The City of San Francisco, California*, R. M. Edwards, San Francisco, 1874 (available at: https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~215979~5502274).
[8] *Hand-Book*, 241.
[9] *Hand-Book*, 241.-241
[10] *Hand-Book*, 241.-241
[11] Hubert Howe Bancroft, *History of California (vol. VI),* A.L. Bancroft & Co., San Francisco, 1888, 548-553.

Nathaniel Bernstein is a recent addition to the California Map Society, land use lawyer, and San Francisco native. He collects city maps.

EVAN THORNBERRY

The David Rumsey Map Center's New Head and Curator

Interviewed by Juliet Rothman

"I'm all maps, all the time," Evan shares, "It all started because I like to travel. I was the family navigator" during family car trips around the Midwest. Also, during his early years, a popular cartoon was The Wild Thornberrys, which featured a family that loved to go on trips and explore new places. He says his friends at the time used to tease him about his family being like the cartoon Thornberrys.

But also, perhaps, his destiny in maps goes much farther into history than this—his father's family, generations ago, was from England, where the name Thornborough was associated with several counties, and thornberrys, possibly derived from the county names, were hedgerows planted in the countryside delineated property lines, which could be mapped to show ownership.

Whether the strongest influence was family travels, cartoons, or England's hedgerows, Evan's interest in maps has persisted all of his life. Feeling the call of the Northwest, he attended Western Washington University in Bellingham, where he majored in geography/special studies, a major that explores geography through demographics and other social factors, preparing students for careers in education. During his University years, there were two major influences which helped to determine his future career: (1) He volunteered at the University's Huxley Map Library, and (2) he participated in the Huxley College Spatial Analysis Lab, a learning experience in GIS and digital mapmaking.

After graduation, he continued on to the University of Washington, obtaining a Master's degree in Library and Information Sciences, focusing on his interest in the cultural heritage of maps and mapping.

When Evan completed his studies, in 2012, he moved to Boston, to work at a newly created unit of the Boston Public Library, the Leventhal Map and Education Center, his first, full-time professional position. "I had great colleagues," he says, "Ron Grim, in particular, was the curator, my boss, and a great mentor and role model." Evan enjoyed the library's technology and projects, especially relating to maps and their map collection. He loved the Leventhal—but the Northwest was calling out to him, and, after five and a half years in Boston, he moved to Vancouver, BC.

Moving west in 2017, Evan transitioned from a public library to the large, academic library at the University of British Columbia in Vancouver, BC. His work there was focused on technology, and was less involved with historical maps and more focused on teaching and consulting for UBC's faculty, students, and staff. He was a special resource in GIS, and says he was "half maps, half GIS," with the title of Geographic Systems Systems (GIS) Librarian.

He taught workshops at the library to help both students and faculty learn the rapidly developing technology in fields as far from maps as music!

Evan moved into his present position as Head and Curator of the David Rumsey Map Library at Stanford University in 2023. The biennial Barry Lawrence Ruderman Conference was held during his very first week at the library, bringing map enthusiasts from near and far to the special programs provided. The participants delved into the special subjects presented, explored all the digital wonders of the library, and held intense and fascinating conversations. "The energy was wonderful, " he says. Evan is grateful to have begun his new position with this conference, and hopes to bring the energy and excitement he experienced to the Rumsey on a regular basis.

He shares that he has no real favorite maps or dedicated interest. "I can't predict what will be special," he says, but thinks maps of places familiar to him, and maps with special cartographic elements are of great interest. He would also like to explore areas of the world that have been traditionally underrepresented in mapping, such as Africa, and the global South.

Evan is very excited to be at the Rumsey, and about all the new opportunities this position will offer.

He is one of several new colleagues, and is enthused about what the new team will bring to the library, what special themes they will revive, and what new ones they will create. "There are many opportunities here," he says, and looks forward to working with his colleagues and to exploring these very much. All through his career, he says, "Stanford Libraries have consistently set an example for map collections and geospatial services worldwide." He is honored to be a part of it.

Marybeth, Evan's wife, is also at the Stanford Library, working with licensing, acquisitions, and vendors.

She is enjoying her work as well, and both are dedicated to their dog, Norma. Evan loves the outdoors and is a bicycling enthusiast. He enjoys bike tours and also loves to cook.

When Evan was a child, he had a special AAA United States map and tracked all his family trips on it. He marked all the roads his family traveled with a Sharpie marker. He has kept this map—and continues to track his travels on it. His latest entry was in December of 2023! He plans to keep traveling always—and to keep his childhood map intact and still recording his adventures. The map can viewed at https://evanthornberry.github.io/. Enjoy!

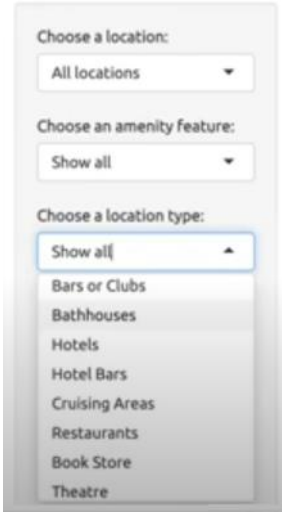
Rumsey Map Center News
Barry Lawrence Ruderman Conference on Cartography IV
Oct 18-20, 2023

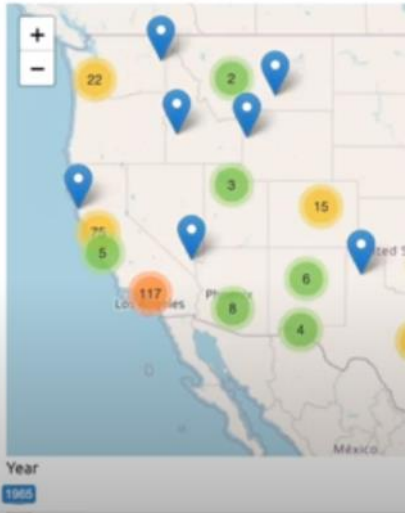
RJ Andrews toured a chronological history of circular statistical graphics, including pie charts, roses, sunbursts, and other more exotic forms.

Ademide Adelusi-Adeluyi explored representations of Lagos, Nigeria—the city and islands—in the mid-nineteenth century, and displayed new visualizations of the old city based on its archival and ethnographic record.

Mamata Akella focused on the fusion of cartography and the digital realm, highlighting "Felt"—an emerging technology—as a key player in revolutionizing online mapmaking.

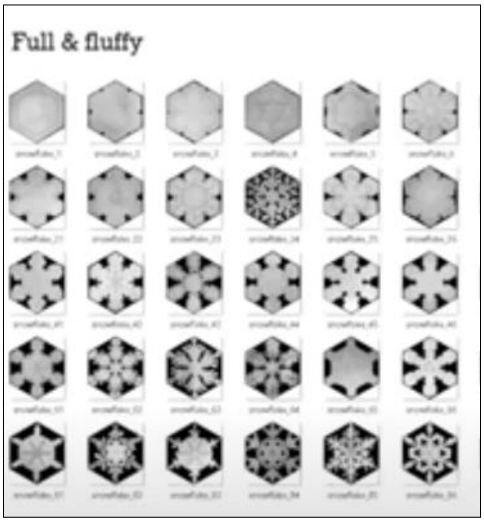
Benjamin Benus discussed **Isotypes**—a graphic method that used countable pictograms to represent quantitative data and figured prominently in geographical atlases of the interwar and postwar years.





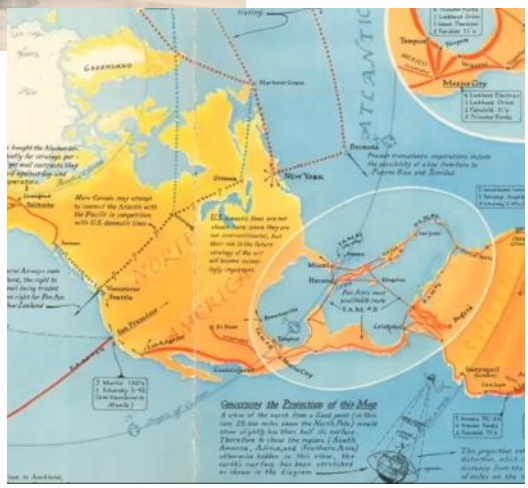
Gabriella Evergreen presented a paper on Queer Geographies; considering the role of place and space in shaping identities and forming communities.

Ken Field created a map of the record California snowfall during the winter 2022-23 using historic snowflake symbols.



Stacy Levy demonstrated that art can create a new kind of legibility to picturing watersheds by changing the scale and materials of mapping.

Lize Mogel outlined a movement that shifts from using two-dimensional cartographic form to represent the human data that underlies spatial justice issues, to a more performative and experiential cartography.



Susan Schulten presented a talk on Richard Edes Harrison who consistently experimented with visual techniques to convey what traditional maps could not: a rapidly shifting landscape of economics, technology, and political power.

Karen Lewis, in her Underground Railroad studies, uses archival narratives, historical maps and records, and links architectural, topographic, and urban conditions across current landscapes.

Additional talks by -

Michael Friendly: A Celebration of Les Chevaliers des Albums de Statistique Graphique

Mel Imfeld: Maps for movement: The unique nature of automotive navigation maps

Elspeth Iralu: The Land, the Water, the Sky: Volumetric Sovereignty & Indigenous Visual Culture

Garrett Dash Nelson: Geographic Information, Popular Visualization, and Regionalization Problem

Gilles Palsky: Legitimizing administrative statistics in XIXth Century France: The Albums de Statistique Graphique in Context, their Aims and Audiences

Daniel Rosenberg: Zero Cartography: Abstraction and Representation in the Time Charts of Joseph Priestley

Jan Trachet: Historical maps as data for research and communication on past, present and future landscapes

The biennial Ruderman Conference is hosted by the David Rumsey Map Center and co-sponsored by Barry Lawrence Ruderman Antique Maps.

For a full list of Ruderman Conference talks click on link below or scan code.
http://tinyurl.com/yk69bj7s

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