

# A MAP COLORIST'S TALE

BY DOROTHY RAPHAELY

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Whenever I have to confess, as I do here, that I have been adding color to very old maps for more than twenty years, I know that I have some explaining to do—about myself, and about the process.

**First, about myself.** How did I get into this practice? It seems that my life experience has led me along a perfect path that integrated all the skills I had learned in my studies, through my work in many different media and fields, as well as by exploring and following many of my interests. I had studied Fine Art and Art History at the University of Cape Town, South Africa, with studio work majoring in printmaking. Clearly, my early interests were focused on the printing processes: etching, lithography and setting lead type for letterpress. I went on to study Textile Design at the Kunstgewerbeschule in Zurich, a field which became my professional career, designing printed cloth for fashion, and later for interiors, and executing colorways for each design before the manufacturer sent them to the printing mills.

After immigrating to Florida, I worked in the wallpaper industry designing wallcoverings and again working with color variations. When the wallpaper market declined, I returned to my love of typography, and went to school to study graphic design. Calligraphy was my hobby, and through a guild and workshops, I learned to make paper and to prepare vellum for being written upon. I studied old manuscripts and learned methods of gilding, using gold leaf. My knowledge of inks and papers made me bold enough to add facsimile lines, or missing letters or numbers to abraded paper—always, of course, with clients' permission.

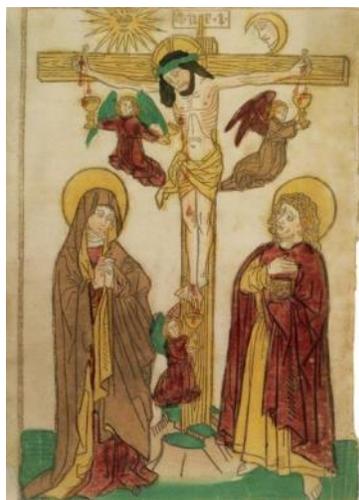
During this time, I bought my first map. It was a Heinrich Scherrer, colored in London, and chosen for both the beautiful French matting and because it was a map of my native Africa. Intrigued with maps, I hung around the local map store in Miami, and was soon asked to mind the store while the owners went to auctions in Europe. There, I handled and studied every kind of map, had access to cartographic books, and I realized that, with good references (this was pre-internet), I would really enjoy coloring maps. I sourced a large facsimile atlas of Gerard De Jode maps, and was about to practice coloring these when it occurred to me that if I colored "real" maps, I could learn how old paper behaved, since I already knew how to mix colors and there were good color references available.

There were no large map divisions in Miami libraries, but

I met collectors, visited map fairs, attended IMCoS and other Map meetings, and began to build a personal library. I began coloring and have had many mentors. Robert Ross used to send me pages torn from calendars which he had marked "Good French Coloring," "Horrible Color Here," "Never Color These Cartouches," and other helpful advice. Len Hendry, George Ritzlin, Fritz Muller, and Pierre Joppen are among the many who guided and encouraged me in my endeavors. I met Truusje Goedings, a mapfair speaker, who was an esteemed researcher, and who found a booklet, a 17th century colorists' technical manual used to work with the composite Blaeu-Van der Hem atlas, now in Vienna. Truusje's knowledge of pigments and techniques used in the 16th and 17th century is unrivaled, and I learned much from her.

A 2002 exhibition, "The Revelation of Color in Northern Renaissance and Baroque Engravings, Etchings, and Woodcuts," at the Baltimore Museum of Art, featured rediscovered painted prints, which existed even among Durer's work but were disdained because—"To color prints is to spoil prints," was the voiced sentiment of the time. Yet, the exhibition clearly demonstrated that color augments, or even provides meaning, to subject matter. I digress from the discussion of hand colored maps with two compelling examples: The addition of hand-applied color shows the blood from Christ's wounds which the angels are collecting in their chalices in the woodcut "Christ on the Cross with Angels" (anonymous, 1465), and the addition of color to Goltzius's "Fortitude" (1597) demonstrates her boundless strength, showing that the column she carries is heavy marble, not lighter wood or plaster.

And now, about coloring maps, two essential elements:



"Christ on the Cross with Angels"



"Fortitude"

**Stylistic Considerations.** Aside from the decorative function, adding color to maps gives clarity, delineates political boundaries and borders (known as "outline color,") and in "full color," makes territories and land bodies much easier to read. I was once asked to review the book *Four Colors Suffice, How*

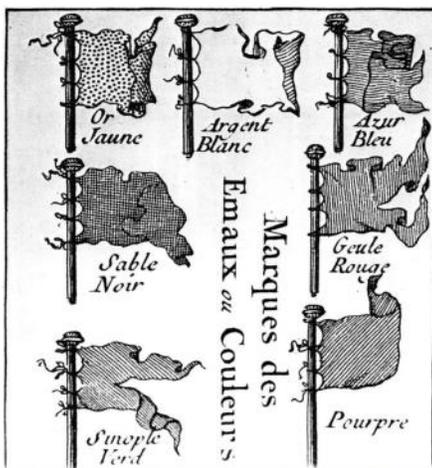
*the Map Problem Was Solved.*” by Robin Wilson, which was actually about a mathematical conundrum that lasted for a hundred years known as “the four-color theorem.” First enunciated in 1852 by an English mapmaker, it asserted that only



four colors were needed to create a map in which no adjacent countries are the same color. The theorem’s proof was finally established by two mathematicians at the University of Illinois, with the help of an IBM computer making billions of decisions. When coloring a dense and complex map of a country, I often use an overlay of tracing paper to ensure avoiding any mistakes. There are conventions of coloring, a

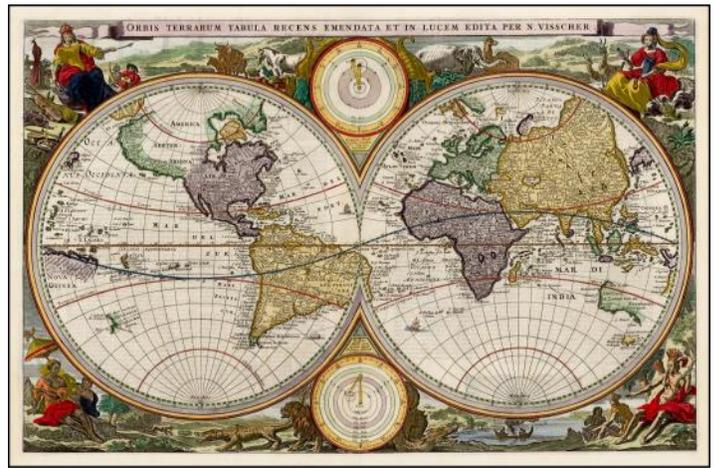
sort of grammar of cartographic color that is important to follow. Correctness is also imperative with armorial shields, or coats of arms, and there is a code, or visual shorthand, that engravers used to aid a colorist, which uses traditional names of colors in French. John Speed’s maps have a color code key, even though they were seldom colored at publication. Flags must also be colored correctly.

Good exemplars are wonderful to have. I try to buy maps in original or contemporary (i.e., contemporaneous with issue)



*Bellin, Jacques-NiCholas. Enlargement from “Small Sea Atlas,” 1764*

color by different map makers. I can always look one more time at that Ortelius blue or a vermillion in a Jansson title page, or even try to simulate the verdigris oxidation of the copper acetate in the greens of a Jodocus Hondius.



*Visscher, Nicolaes, “Orbis Terrarum Tabula Recens Emendata et in Lucem Edita,” 1663. This map’s uniqueness and distinct attraction are its marginal decorations which were the work of artist Nicolaes Berchem. The artist created four dramatic scenes from classical mythology—the rape of Persephone amidst a flaming background, Zeus as he was carried across the heavens in an eagle-drawn chariot, Poseidon and his entourage emerging from the sea, and Demeter receiving the fruits of the*



*Stoopendaal, Daniel. “Orbis terrarium tabula recens emendate et in lucem edita,” 1702. Coloring by the author. Stoopendaal based his map on the Visscher-Berchem world map of 1663 shown above. Note the coloring style differences.*



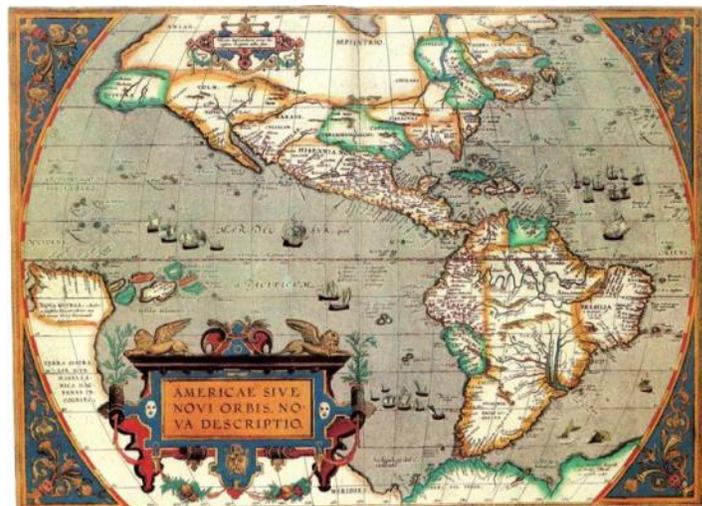
I believe that far too many maps are being colored presently, and I’m known to be a reluctant colorist, especially when there is a good crisp impression on creamy paper, or when it is inappropriate to color the maps (or cartouches) of certain map makers. I love the use of grisaille, which is a uniform light greyish wash used over large areas of engraving usually at the perimeter, often surrounding highly colored features within the map. While coloring a map, I find myself appreciating and revealing details, or even highlighting symbolic or allegorical features.

**Research and Planning.** Before even starting to color, I begin with stylistic research, and with communication with client or dealer via internet images to establish their preferences, and to share my own aesthetic and any necessary considerations. Clients often ask me to use my own discretion, trusting my judgment, but they may also have distinct requests. I try to get to know their tastes and encourage them to send examples of coloring they like or dislike. There is the decision whether to use full body color of territories, or outline color of borders, and whether thinner or wider bands are characteristic of the mapmaker. There are distinct national palettes—blue and yellow in a Blaeu map corresponds to those colors in a Vermeer painting, as Lisa Davis Allen has written in a Ristow prize-winning abstract. Different editions of the same map created at different times have differing coloring styles, as John Goss illustrates with two editions of an Ortelius map in *“The Mapmaker’s Art”*. Blaeu maps from 1630 onwards also were colored with darker, richer colors than earlier editions.

**Methods and Materials.** It is always necessary to size or resize the paper, since one does not always know whether it has been washed to remove foxing or stains, which may have removed the sizing. The sizing agent seals the porous surface, preventing any bleed through to the verso. I often size both front and back if the paper is thin, or if I am painting a blue sea, since blue pigment easily bleeds through. I have experimented with gelatin sheets, fish glue, gum arabic, and alum—all too tricky. I now use Ethulose dissolved in water (recipe freely shared) because it is inert and bugs don’t like it, whereas the alternative, Methylcellulose, is organic, must be refrigerated, and, eventually, tossed. I apply it with my favorite wide, soft, bristled brush, or even with a pastry brush in small areas, after preparatory cleaning with a plastic eraser, or powdered gum erasers encased in a fabric bag (also called “draftsmen’s cleaning bags”) which won’t abrade the surface. I occasionally use a spray fixative, designed to prevent pastels and drawings from transfer and smudging. This is especially useful over a large area, where the paper may not be stable when wet; however, the vapors are very toxic and the warning labels are frightening. The paper quality is a huge consideration, and cleaner paper (though never with a bleached quality) will always give more luminous color. I always use distilled water, and a barrier guard to avoid transferring skin oils from my palms to the paper. One really never knows how the paper



Ortelius, Abraham, from *“Theatrum Orbis Terrarum”* (Atlas), 1570

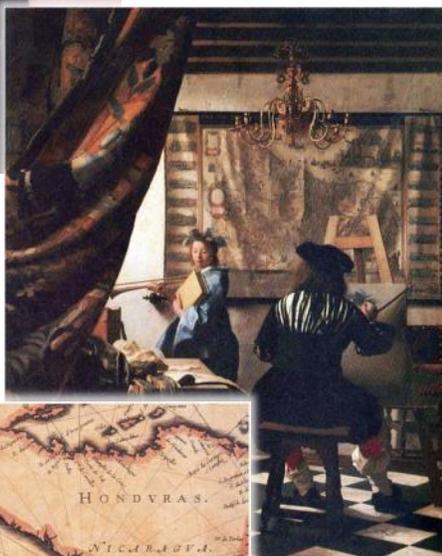


Ortelius, Abraham, from *“Theatrum Orbis Terrarum”* (Atlas), 1585

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*The 17th  
Century  
Dutch Palette*



Clockwise from top left: Johannes Vermeer, *The Milkmaid*, c. 1658; Johannes Vermeer, *The Art of Painting*, c. 1666; Janszoom Willem Blaeu, c. 1667 (Detail)

will receive the paint until it is applied, so I start within the neat line, in a characteristic yellow ochre, to test darkening and absorbency. I keep bits of old yellowed paper from discarded books and will test a particular color I am seeking on a paper closest in tone to that of the map with which I'm working. This has proved to be an invaluable aid. Color in the cartouche can balance the tones in an unevenly printed engraving. I also mend small tears with Japanese tissue paper, and sometimes attempt to flatten creases, but send all conservation to experts.

The colors I use must be archival quality, generally watercolors (my preference is Winsor Newton) though sometimes I use gouache as appropriate to a particular mapmaker, or for greater opacity. The challenge is to make colors lightfast but also removable. I have a reference manual with ratings by the ASTM (American Society of Testing and Materials) with comparative tables about high lightfastness versus

have worked on quite a few copies of this map and have had to unroll a few portions at a time.

In addition to maps, I color prints, and have colored an entire book of topographical town views with corresponding costume plates published by Carel Allard in Amsterdam around 1695. A doctor client had been given a hurricane-damaged book by a patient who knew he liked "old stuff." Examining it, I persuaded him that it was worth the cost of taking the book apart and professionally cleaning the pages (99 double page copper plates plus double title pages). He proposed I color these as slowly as I liked, to have the fullest enjoyment. After coloring, the book was expertly rebound with a renewed spine, and auctioned in Hamburg for \$72,576. It turned out to be extremely rare, with no other copy auctioned since 1945, and with proof of only three other possible

**Methods of Map Production**  
*And if your Paper be good and bear the Colours well, without suffering them to sink into it, all that are here mentioned will be fair and pleasant to the Eye, and 'tis the Fairness of the Colours that is most esteemed in this Art of Map-Painting. But if the Paper be not good and strong, no Art can make the Colours lie well; therefore in buying Maps, chuse those that are Printed on the strongest or thickest Paper: For they colour best, provided the Paper be well sized, and indeed it will be found, when we have taken the greatest Care we can, that Colours will lie fairer, and look more bright and pleasant on some Paper, than on other sorts, tho' they seem to be as strong.*  
 John Smith (1701)



Mitchell, John/Le Rouge. "Amerique Septentrionale ...", 1756

Color	Lightfastness (ASTM)	Notes
Red	1-4	Very fast fading in light. Not recommended for outdoor use.
Orange	2-3	Fast fading in light. Not recommended for outdoor use.
Yellow	3-4	Fast fading in light. Not recommended for outdoor use.
Green	2-3	Fast fading in light. Not recommended for outdoor use.
Blue	3-4	Fast fading in light. Not recommended for outdoor use.
Purple	1-2	Very fast fading in light. Not recommended for outdoor use.
Brown	3-4	Fast fading in light. Not recommended for outdoor use.
Black	3-4	Fast fading in light. Not recommended for outdoor use.

fugitive pigments, those affected by environmental and other factors, in colors made by several manufacturers. A recent newsletter from Winsor Newton reported on colors currently made cadmium-free for health and environmental reasons—even with artists rinsing their brushes in the sink, the food chain can be polluted. Van Gogh and Claude Monet's famous yellow hues were painted

copies in existence in the catalogues of the major libraries—the Bavarian State Library, the British Library, and our own Library of Congress. I was proud that it was considered a highlight of the auction and was used on the catalogue cover! (Image, next page)

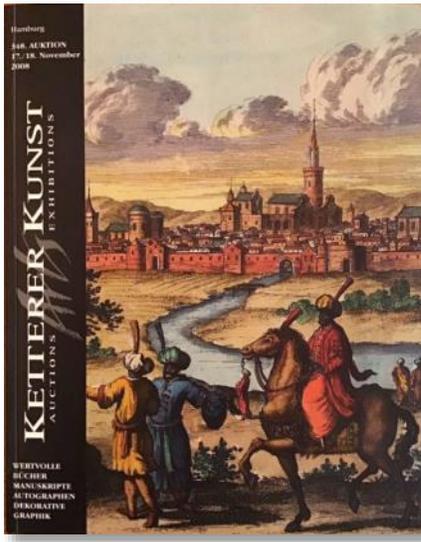


Plate from Allard book

with cadmium pigments.

The earliest map I have worked on is probably a 1540 Munster, and the largest is the 1756 John Mitchell/Le Rouge map, which measures 54 inches by 78 inches. Surprisingly, I

I enjoy working on very decorative maps best, as these are most enhanced by coloring. Celestial maps, beautiful cartouches, and maps of or with islands are favorites. I know that there must be a lot of trust involved in having a treasured and valua-



ble map colored. Receiving that trust, or a compliment on my work, is a pleasure that is hard to quantify. In an interview, Peter Roehrich asked me what aspect I most disliked when coloring. I immediately replied that it was the fear factor: that moment just before paint is added, not knowing whether there will be any dreaded bleed through to the verso, and of course whether the coloring will please the recipient. The title of this piece could be “The Agony and the Ecstasy of Map Coloring!”

**Dorothy Raphaely** is an experienced colorist of antique maps and prints. She has addressed the Map Societies of New York, Boston, and California about the practice and considerations of coloring in the appropriate manner and conventions of the time, country, mapmaker, and his particular style. She works with dealers, as well as collectors. Some additional examples of her work can be viewed at her website [www.coloramap.com](http://www.coloramap.com).