

# John Hessler – In Conversation with David Rumsey

**D**avid Rumsey is one of the most important map collectors of the last half century. He has thought deeply about the importance the history of cartography and has brought together a collection that spans the history of mapmaking. Critically, he has also embraced the technological revolutions that have changed the science and practice of cartography since the 1960s. David's collection is part of the special collections library at Stanford University and can be accessed at the David Rumsey Map Collection. <https://www.davidrumsey.com/>.

I spoke with David about what got him started in map collecting, why he thinks historic maps are important and about the role technology plays in making all this analog geospatial information accessible. We also talked about his early years at Yale and his thoughts about the future of data visualization and its relation to cartography.

1. *Hessler:* You built one of the premier and most comprehensive private map collections in the modern era, spanning large chunks of geographic space and historical time. It is a project that took decades of effort and thought. What started you down this road?

*Rumsey:* I was drawn to maps from the earliest age I can remember. National Geographic maps decorated my walls growing up. My brain enjoys the way text flows on maps in all directions. The two-dimensional transformation of three-dimensional space excites my imagination. About 45 years ago, when I became old enough to appreciate history, I discovered that out-of-date maps revealed the past visually. After assembling big pile of maps, I realized I had a problem: how to organize the trove and what did the maps mean as a group of things. The atlases I collected helped me here: they gave me a model of how maps can be sequenced and create meaning together.

So my collection was born. It grew rapidly as I created a network of pre-Internet dealer friends able to help build it. I was lucky that my first love were the 19<sup>th</sup> century maps that most dealers considered (in 1980) to be modern, not antiquarian. They happily off-loaded them to me at very reasonable prices. From there I expanded in both directions of time, to where my collection is now, running from about 1500 to the present. When you start collecting, you don't know you are collecting. It is only later, when you are deep



David Rumsey.

into it, that you realize you are building something that takes on a life of its own. Today I think of the collection as my poem, an integrated work that can be read by anyone, anywhere, in any direction because it is also an online digital database.

2. **Hessler:** During your time at Yale in the 1960s you were one of the founding members of Pulsa—an extremely influential group of artists that combined sound, light and new technology to produce innovative immersive art. The group also sponsored some really original seminars on subjects that combined technology and creative practice that are still relevant today like, “Artificial Intelligence and the Environment”. Tell us a little about that experience and if the aesthetics of that kind of multi-disciplinary work informs your thinking about maps.

**Rumsey:** Pulsa was an all-encompassing part of my life from 1966, when I co-founded it, to 1973, when we broke up. Pulsa comprised seven members from art and technology backgrounds. It grew well beyond its initial purpose of making art to explore a new way of living, communally, and embracing new utopian dreams. All this was during a time of war and civil strife. We saw in technology an opening to make art that celebrated human activities and potential instead of technology used to wage war and inflame violence. Pulsa created large light and sound public environments. The sculpture garden at New York MOMA, the Boston Public Garden, Yale Golf Course, Walker Art Museum, California Institute of the Arts, and Yale School of Art and Architecture were some of our venues.

Looking back at it today, I can see that it has affected my work with maps. Like maps, the Pulsa artworks were spatial in concept. The lessons I learned from engaging across disciplinary boundaries has made it easier for me to apply today’s technologies to historical maps. Maps themselves cross the boundaries of art and technology. The construction of my online database of 125,000 maps and related images has become an artwork itself—a collage of visual elements connected by pathways leading to unexpected places. Pulsa lives on in my work with maps in another crucial way. Our youthful idealism of open access to all art, with no barriers, informs my making the collection freely available via the Internet.

3. **Hessler:** This same period saw the birth of Geographic Information Science at places like Harvard’s Laboratory for Computer Graphics and Spatial Analysis and through Roger Tomlinson’s pioneering work. Many of those involved in the development of GIS had art and architectural backgrounds and sought innovative ways of combining design and newly developed

computation and visualization methods. The hybrid nature of publications like the *Harvard Papers in Theoretical Geography* read much like those of Pulsa. Did you know of the innovations taking place in geographic analysis and digital mapmaking at the time?

**Rumsey:** I can’t say that we were explicitly aware of those developments, but we were close to the work of Georgy Kepes at the MIT Center for Advanced Visual Studies during the same period. I think Kepes would have been in touch Tomlinson and others working in early GIS. We were drawn to Kepes because of his work on the role of art in the environment. We contributed an essay “The City as Artwork” to his edited volume *Arts of the Environment*. In our essay we posited the idea of the city as a group of complete systems of energy, movement, light, sound, and other layers that was close to early GIS concepts. Pulsa’s art was often about making those systems visible, much as GIS does today.

4. **Hessler:** You are well known in map circles for combining technology with historical cartography. Nowhere is this more evident than at the Rumsey Map Center at Stanford, an online presence for historical cartography that is used across many disciplines in the sciences and humanities. What role do you think historical cartography plays in the age of GIS?

**Rumsey:** GIS increasingly embraces time as part of its capabilities, historical cartography can play an important role in showing change in the environment and human activities over time. Old paper maps can be integrated with GIS easily and are an unparalleled primary source of data. And as we look ahead to the next 50 years, maps created digitally in GIS will themselves become historical and move into the canon. Libraries need to assemble and preserve these resources. We are doing this at the Rumsey Map Center and at Stanford Libraries generally through several initiatives, such as EarthWorks. Soon we will be releasing a new searching capability for 60,000 of my maps. It allows searching maps by toponyms and text on the maps. This pulls the data off the maps and stores it in GeoJSON files—100 million of them. It’s part of a larger effort at Stanford Libraries to generate and preserve humanities data. Historical cartography has for too long been seen by humanists and scientists as “ephemera,” second-rank source material at best. Using AI, we can pull that data off the maps and in so doing will open them up as primary sources of information found nowhere else.

5. **Hessler:** In recent years you have become interested in data visualization and its connection to cartography. This is

something that has become very important today as GIS has expanded and the ability to analyze large amounts of data has become commonplace in areas like public policy and health. What interests you about data visualization and more broadly the history of thematic cartography?

**Rumsey:** I see diagrams of data visualization as maps even if they do not have explicitly spatial aspects. Like maps, they show relationships between expressions of data with juxtapositions that promote imagination. Thematic cartography interested me from the beginning of my collecting, starting with Heinrich Berghaus' *Physikalischer Atlas* of 1844. (Editor's Note: For more on Berghaus, see [https://en.wikipedia.org/wiki/Heinrich\\_Berghaus](https://en.wikipedia.org/wiki/Heinrich_Berghaus)). I was amazed at how powerfully he combined diagrams and charts with maps and views. Data visualization today is increasingly the best and only way to comprehend huge statistical databases generated by our omnipresent sensors. Looking at how Charles Minard in 19<sup>th</sup> century France and countless others solved visualizing these flows is powerfully helpful to today's data designers. At the Rumsey Map Center, we are always showing Stanford data designers that visualizations have been done before. There is much they can learn from this inspired and often ingenious work. I think of my own map database as a large-scale data visualization that allows one to easily travel through the history of cartography over five centuries. From that perspective one can derive mental and physical models of mapping methods, techniques, artistry, and regional characteristics as they change over time.

6. **Hessler:** Over the decades you have obviously thought deeply about maps and their history. What philosophical ideas or thinkers from outside cartography proper inform your ideas about maps, design, and art in general?

**Rumsey:** I was fortunate to study photography with Walker Evans at Yale. He encouraged a very mappish view of the work in photography—shoot pictures straight on, record the place and time on the verso, avoid artiness at all costs. He helped me to see art in places and media that I would have missed. Buckminster Fuller, although he made maps too, was a very big influence in my thinking about design in general. I built three of his domes and in so doing learned about how parts connect and support, and not just physically. Marshall McLuhan on media influenced all of us in the 60's. Maps are the message—I learned that from him.

The poet Phillip Levine wrote spatially—at least that is how I experience it—and I think my idea of my database

as a poem comes from him in a roundabout way. His poem "What Work Is" remains an inspiration. The photographic and video collages of David Hockney influence my methods of working with map database thumbnails and with my being drawing to large series maps such as the 674 sheet *Karte des Deutschen Reiches* 1893. I think the power of cartography is that it can draw from so many sources in our cultures, almost uniquely so as a medium. (Editor's Note: See this at <https://www.davidrumsey.com/blog/2011/4/10/karte-des-deutschen-reiches-1893>).

7. **Hessler:** The practice of mapmaking has gone through a revolution in the last few decades with the ability to create maps using GIS and other digital and online tools becoming readily available. This fact has made map collecting a much more difficult task. Is it even possible to collect and preserve the many important and innovative purely digital maps being created today?

**Rumsey:** Yes, it is possible, and we must do it. One of my goals for the Rumsey Map Center in the next five years is to partner with Stanford Libraries to develop tools of emulation and preservation that can hold complex digital map objects in a way that ensures they can be experienced as originally intended. Not easy to do. But we must do it. The beauty and power of our purely digital maps requires it. Future generations of map readers and users would be astonished and disappointed if we don't do it. What if these maps suffer the same fate as early films, only a fraction of which survive? Especially at this moment, an inflection point in the earth's response to global climate change, ensuring future access to these maps is a crucial responsibility. In my own collecting I have been able to add web maps, but it has not been easy. It requires yearly updates to support them. But the good news is that digital maps by their nature are not rare, so acquisition is easy and resources that might have been used for rarities can be used for preservation.

**John Hessler** is an applied mathematician, computer scientist, and lecturer in the Odyssey Program at Johns Hopkins University. He is the founder and director of the **biomaplab**, where they are developing new statistical and computational tools for mapping and visualizing the dynamics of far from equilibrium spatial processes, like the spread of pandemics. Their current computational research centers on retrospectively mapping the spatial phylodynamics and complex transmission pathways of the 2014–2016 Ebola virus outbreak in West Africa, and on studying the geographic distribution and genomic changes in the earliest cases of SARS-CoV-2. *Photo courtesy of David Rumsey.*

