[CV-01-027] Cartography and Art

Abstract

The intersections between art and cartography go far beyond the notions of design and illustration, since mapmaking invariably has multiple cultural, social, and political dimensions. Considering this broader perspective, this entry provides a review of these different contemporary intersections, by exploring three main types of relationships: 1) cartography influenced by artistic practices; 2) map art or maps embedded in artistic practices; and 3) cartography at the interface between art and places. These will be discussed in detail following a brief overview of the main historical markers from which these types of relationships between art and cartography have emerged.

Keywords: artworks, cartography, deep mapping, literary cartography, map art

Author & citation

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Explanation

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1. Definitions

aesthetic: from the Greek aisthesis, related to the perception of the senses, our ability to develop a certain kind of knowledge through our feelings.

avant-garde: a French word that means forefront. In the context of the fine arts, the avant-garde refers to early 20th century artistic movements such as Dadaism and Surrealism that drastically changed the course of the practice of art, introducing radical concepts and unconventional motifs in order to acknowledge the political functions of artworks, including maps.

deep mapping: an emerging approach at the crossroads of cartography and the humanities that aims to study places in depth through the mapping of a range of geographical data from multiple sources including from fiction, art, stories, and memories.

literary cartography: a field of investigation about the multiple relationships between maps, places and literature.

map art: artistic manifestations that use maps and cartographic elements in a poetic way, mostly for political purposes, employing several techniques like painting, sculpture, engraving, photography, collage, drawing, performance and installation.

poetic: The origin of the term poetic refers to Aristotle and the study of literary art as a verbal creation (Ducrot & Schaeffer, 1995). In this entry, the concept is used in a broader sense. According to Jakobson, a poetic function means a discourse that is primarily focused on the quality of its form, its material structure, such as colors, rhythm and tones (Nöth & Santaella, 2017).

2. Historical markers in the relationship between art and cartography

Cartographers have always navigated between art and science. For example, while mapmakers from Ancient Greece were extensively influenced by scientific procedures based on geometry and astronomy (Brotton, 2014), western medieval maps utilized artistic techniques and aesthetic approaches to communicate religious and mythical beliefs about the world (Zumthor, 1993). During the Renaissance, maps played a key role in exploration and colonization, helping navigators to access and claim territories around the world. This period is also distinguished by the rediscovery of antique scientific practices, improved by new tools and techniques of mapmaking. According to Denis Wood (2010a), western modern maps were born within that context where the nation states and the formal sciences in academies were being established. Aligned with the emergence of modern states in Europe and their expansion via maritime explorations, cartography left ancient symbolism in favor of a more functional vision (Zumthor, 1993).

In parallel with this shift towards a scientific paradigm, maps started to make their way into artistic expressions. According to Monsaingeon (2013, p.34), “the birth of modern cartography is linked to the revival of Renaissance painting, particularly in Leonardo da Vinci and Alberti, simultaneously artists, engineers and scientists,” as we can see in Leonardo’s Plan de Imola (1502) (see Figure 1). During the Renaissance, maps also started to become more common, even appearing in paintings such as the famous The Geographer by Vermeer (1669) (see Figure 2).



Figure 1. Leonardo da Vinci’s Plan of Imola, 1502. Da Vinci proposed an aerial view of Imola, combining accurate techniques of measurements with an aesthetic appeal. The result is a masterpiece work of cartography. This map was ordered by Cesare Borgia, an Italian nobleman and politician, after conquering the city. For further information, check This Old Map: Da Vinci's City Plan, 1502 and Leonardo da Vinci and mapmaking. Source: Wikimedia Commons.

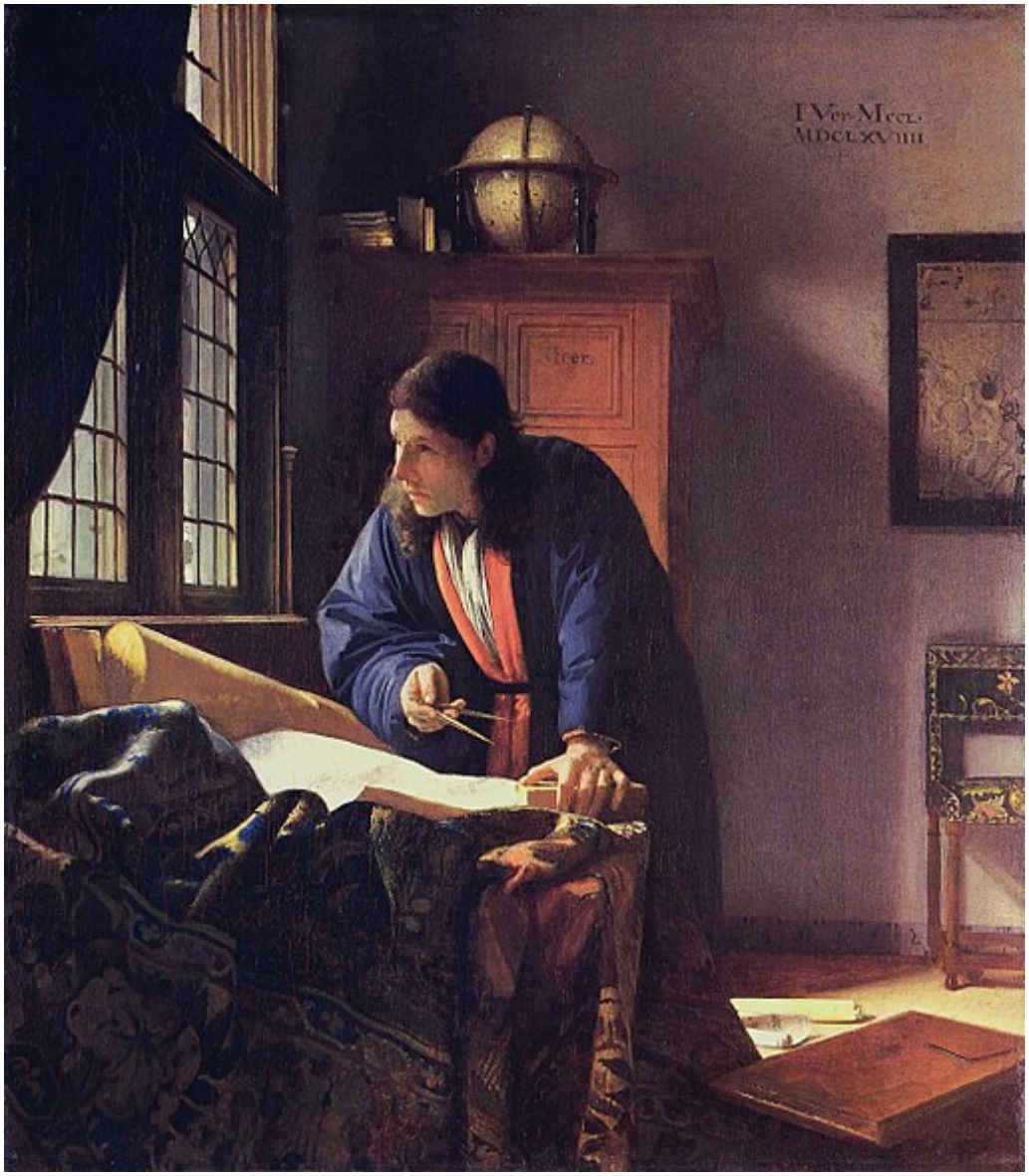


Figure 2. Vermeer's The Geographer, 1669. Netherlands has a distinguished tradition in cartography, especially in the 17th and 18th centuries. The strong influence of this emergent science inspired Vermeer to depict a geographer in his cabinet working with maps. Source: Wikimedia Commons.

At the beginning of the 20th century, the combination of art and cartography provided new creative possibilities. During this period, artistic movements such as Dadaism started to unveil the political power of maps. As discussed by Wood (2010a), this new approach was named map art, which can be broadly defined as artist-designed maps that challenge conventional cartographic practices, often uncovering their political dimensions in a poetic way (see Cartography and Power, forthcoming). This relationship was further explored in the 1920's by Surrealism, an intellectual and artistic movement "that explicitly engaged cartography as practice rather than simply the map as image" (Cosgrove, 2005, p.39). By focusing on the practice over simply the image, the surrealists emphasized the political and cultural construction of any and all maps, an idea that will be further developed by critical cartographers towards the end of the 20th century.

At the turn of the 21st century, the relationship between art and cartography reached another turning point with the growing interest in approaching artwork as a source of

spatial information that could be mapped. This trend includes a notable enthusiasm for mapping all sorts of stories and narratives (Caquard & Cartwright, 2014). Trying to geolocate and map places as they appear in novels has been a long-established practice within and beyond academia (Senges, 2011; Piatti & Hurni, 2011), but it is really with the work of Franco Moretti and the publication of his Atlas of European Novels in 1999 that literary cartography became a remarkable domain of research. The interest in mapping places now transcends literary studies and reaches any branch of the humanities that seeks to better understand the deep relationship that people have developed with places over time. These intimate connections of individuals and communities with places are often explored through the combination of artistic maps with narratives, a procedure intended to highlight emotions and personal links with places.

Historical markers	Main artistic characteristics	Examples
Western medieval maps	Aesthetic to convey graphically spiritual dimensions	Ebstorf Mappamundi (1234), Isidore of Seville's T-O map (1472)
Renaissance	Maps appear in artwork (e.g. paintings, novels)	Vermeer's The Geographer (1669), Thomas More Utopia's islands (1516)
Beginning of the 20th century	Map art as political expression (e.g. Dadaism, Surrealism)	Le monde au temps des Surréalistes (1929).
End of the 20th century	Art as a source of cartographic data (e.g. literary cartography)	Franco Moretti's Atlas of the European Novel 1800-1900 (1999)
Beginning of the 21st century	Art combined with maps extensively (e.g. deep mapping)	Rebecca Solnit's atlases (2010, 2013, 2016).

Table 1. A summary of the main historical markers in the relationships between art and cartography

In the following sections, we shall further discuss the three main relationships between art and cartography that have been identified previously: 1) the influence of artistic practices on cartographic design, 2) the forms and functions of map art, and 3) cartography at the interface between art and places.

3. Cartography influenced by artistic practices

Art has a long tradition of influencing cartographic practices. Earlier cartographers were often trained as artists. For instance, European cartographers of the 17th and 18th centuries—such as Gerard Mercator and Joan Blaeu—had to master techniques such as painting, engraving and sculpture to create and sell their world maps, atlases and globes (Brotton, 2014).

Modern cartographic practices have also been influenced by artists. One of the most famous examples of this is probably the London Underground Map by engineer Henry Beck, published in 1933. According to Field and Cartwright (2014), Beck's creation was encouraged by Modernism and avant-garde artistic movements. This technique based on straight lines and points, in which the clear connection between metro lines is more important than the accurate location of the metro stations within the city, influenced the design of contemporary subway maps all over the world. Panorama maps is another example of artistic influences on modern cartographic practices. Panorama maps is a style

that blends old European painting tradition with modern cartography (Troyer, 2002) to show landscape from an oblique perspective. This style, that emphasizes the beauty of a landscape, has been highly influenced by the panorama maps designed by artist Heinrich Berann in the 1930s (Demaj & Field, 2012). This style is still used extensively for tourist city maps as well as for the maps of national park in the U.S.A. Similar painting techniques were also applied in terrain representation (see Terrain Representation), whose shaded relief was done manually by trained artists (Imhof, 1982), as illustrated in A Map of the Area around the Walensee, painted in 1938.

A more recent example of the influence of arts in cartography is the The Earth from Space (1990). This famous map of the entire world is made of more than 10,000 satellite images, but that were recolored and stitched together by artist Tom Van Sant and NASA's scientist Lloyd Van Warren. This produced what looks like a perfect image of the Earth taken from space, yet it has been construed with a particular aesthetic and political vision of the world (Wood, 1992).

Even contemporary online mapping applications have been inspired by artistic visions. In his novel Mirror Words (1992), writer and scientist David Gelernter describes the functionalities of an interactive city map that seems very similar to what Google developed more than two decades later in Google Maps and Google Earth. In fact, the famous short film Powers of Ten (dir. Charles and Ray Eames, 1977) is admittedly the original source of inspiration for developing Google Earth (Crampton, 2008). This film begins with a zoom out from a couple in a park in Chicago to the edge of the Universe, followed by a zoom in within the body of the man to enter one of his DNA molecules. However, many capabilities of Google Earth, such as titling and zooming from the entire globe to the street level, appeared decades before that in cinema, for instance in the first scene of the 1942 movie Casablanca directed by Michael Curtiz (Caquard, 2009).

In summary, even if western cartography has been widely influenced by technological and scientific progress, many remarkable contemporary maps have indeed been shaped, inspired and designed by artistic practices and visions.

4. Map art: the politics of mapping in poetic expression

Although maps started to appear in artworks during the Renaissance, they became prevalent in visual art at the beginning of the 20th century with the emergence of avant-garde artistic movements. These movements brought to the fore, in a poetic way, the political dimensions of maps through the development of map art. One of the most famous examples is the world map Le monde au temps des surréalistes (1929), which represents each country in proportion to its cultural importance, according to the surrealists (Ginioux, 2004) (see Figure 3). Influenced by Surrealism, Uruguayan artist Joaquin Torres-Garcia, a former member of that artistic movement, designed the Inverted Map of South America (released in 1936) to support two main political ideas: first, that the South placed at the bottom of any maps is actually a choice reinforcing the idea of a hierarchy between the North (on top) and the South; and second, that art should be created from the bottom up instead of from an elite's perspective, as was the case historically.

In the 1950s, members of the artistic and activist Situationist movement designed a map entitled The Naked City (1957). This map represents how neighborhoods are perceived by

Situationists while drifting throughout the city (i.e. walking randomly). This walking practice and its cartographic representation were intended to subvert the dominant functionalist use of the city and to propose alternative ways of interacting with urban space by enabling people to cross psychogeographic borders and encourage them to visit places and neighborhoods they would never have visited in their daily activities (Pinder, 1996; Corner, 1999). Since then, Situationism has influenced several contemporary artistic practices driven by similar activist agendas (Kvas, 2014).



Figure 3. Le monde au temps des surréalistes, 1929. This famous piece of map art is attributed to Paul Éluard, one of the founders of Surrealism (Wood, 2010a). The Surrealists purposely distorted the map, offering a political message against an imperialist and Eurocentric conventional representation of the world. Source: Beth Harris, "Le monde au temps des Surrealistes (The World at the Time of the Surrealists), image from p. 26-27 in special issue “Le Surrealisme en 1929″ of Varietes: Revue mensuelle Illustree de l’espirit contemporain (June 1929)," in Smarthistory, September 7, 2016, accessed February 10, 2018, https://smarthistory.org/surrealism-intro/tumblr_nv8lbhuebu1r6ssrvo1_1280/.



Figure 4. Detail from Debord, G. (1957?). Guide psychogeographique de Paris. Édité par le Bauhaus imaginiste: Printed in Denmark by Permild & Rosengreen. Supported by dérive (drift) method, the Situationist movement proposed an alternative mapping procedure, strongly based both on randomized walking explorations and on the perceived relationships that emerged from these walks between different blocks and neighborhoods in Paris.

Although Wood (2010a) proposes that map art really started in the 1910s during WWI with the Dada movement, one can argue that the famous Carte du pays de Tendre (1654), created by Madeleine de Scudéry, is a precursor of map art (see Figure 5). Even if her original purpose might not have been political, since it was supposed to depict the evolution of sentimental relationships through a succession of place names, this map has been considered as the first feminist cartographic expression (Bruno, 2002) (see Women, Feminism, and GIS, forthcoming). Indeed, in this map Scudéry subverted the conventional cartographic practices of the time that focused largely on military purposes.



Figure 5. Madeleine de Scudéry's la Carte du Tendre, 1654. This map appeared in Madeleine de Scudéry's novel Clélie (1654), displaying the evolution of sentimental relationships through a succession of place names. This artwork is considered by Giuliana Bruno (2002) as the first feminist cartographic expression since it focuses on personal and intimate connections rather than on functionalistic and militaristic ones that were dominant at the time. Source: Wikimedia Commons.



Figure 6. In this map of the United States of America, abstract expressionist Jasper Johns proposes a poetic translation of his view of the USA with strong colors, vigorous brushes and selected labels. According to Harmon (2009, p. 10), in this celebrated series of painted maps of the U.S., “Jasper Johns took a familiar icon, a form that children learn to recognize in kindergarten, and played with it as a child might.” Source: Art © Jasper Johns/Licensed by VAGA, New York, NY. Used with permission.

The poetical and political dimensions of map art also inspired modern artists such as Jasper John (see Fig. 6) as well as contemporary artists such as Ariane Littman. Inspired by Dadaism, this Jerusalem-based artist cut, shred, bandaged and sewed various Israeli, UN, and Palestinian official maps delimitating the frontier between Palestine and Israel. Throughout this remapping process, Littman sought a healing process of the profound wounds that have been created historically between these two people throughout the land appropriation/expropriation process, which was supported by official maps (see Figure 7). Furthermore, the political engagement of contemporary activists was also the driving force behind An Atlas of Radical Cartography (Mogel & Bhagat, 2007), a publication involving artists with maps and essays designed “to provoke new perceptions of the networks, lineages, associations and representations of places, people and power” (Mogel & Bhagat, 2007, p.6) (see Figure 8).

As illustrated in this section, the political agenda of map art combined with its poetical expression has been inspiring modern and contemporary artists. If we look carefully, maps are ubiquitous in contemporary art, reflecting their extensive presence in our daily lives.



Figure 7. Ariane Littman sewing a "Wounded Map" in Jerusalem's Old City (2011). In this series, the artist cut fragments of official maps showing the Green Line between Israeli settlements and Palestinian villages, and then covered these fragments with sterile bandages and plaster before sewing them with a green thread. “Cutting, erasing, sewing and swathing the maps in bandages allowed me to deconstruct the hierarchy of cartographic power inscribed within the original maps.” Source: Image provided by the author.



Figure 8. Through the distribution of this map and its unconventional location of the words “Latino/a” and “America” the artist aims to challenge “what ‘America’ means, and what it means to be ‘American’.” Source: Pedro Lasch, LATINO/A AMERICA: ROUTE GUIDES, New York Edition, Vicencio Marquez (2006). Printed map, exposed to weather and use, accompanied by text, 30x41. Source: Courtesy of the artist.

5. Cartography at the interface between art and place

The third main intersection between art and cartography identified in this entry refers to the use of cartography as a way to investigate our relationship with place, with and within different forms of artistic expression. This kind of inquiry can be done for three main purposes: (a) to examine fictional and non-fictional narrative structures through their spatial dimensions, (b) to understand places as they appear in artworks, specially in films and novels, and (c) to explore our personal and emotional relationships to places.

The interest in mapping places that appear in stories is not new (see Piatti, 2016), but has become much more prevalent since the seminal work of Franco Moretti (1999) on literary cartography, followed by a broad range of publications in this field (Rossetto, 2014). The main goal of literary cartography, as synthesized by Moretti (1999), is to rearrange the components of a narrative in an unexpected way in order to bring to the surface hidden configurations. This rearrangement can be done with conventional maps, but can also stimulate the design of original forms of cartographic expressions as in Andrew DeGraff's Literary Atlas (2015). These maps can be used to study narrative structures as well as geographical ones. Indeed, artworks such as novels and films have been envisioned as geographical databases that can help us understand places.

This idea of understanding places through a narrative perspective is embedded in the emerging domain of deep mapping. As described by Susan Maher (2014), deep mapping can be characterized as mapping a plethora of stories - including fictional ones - in order to capture the deep sense of a place. This is based on the assumption that we can only understand a place in depth by knowing how people interact with it and how they feel about it, and these interactions and feelings are often expressed through stories (see Narrative & Storytelling, forthcoming). Recently, a group of scholars has adopted this approach to propose new ways of understanding places. According to this view, mapping might be combined with artistic representations of places and with narratives related to places to support this deepened understanding (Bodenhamer, Corrigan, & Harris, 2015). In that sense, deep mapping involves artwork as both a source of information that can be mapped to help understand a place in depth, as well as a form of expression that can help reveal and represent this understanding.

This conception of place also involves the representation of emotions, perceptions and personal feelings associated to them. Artist Christian Nold explored this by developing an emotional mapping methodology and toolset that enabled people to both measure and comment upon on their level of physiological response while walking in a city, producing "emotional maps" of cities such as Paris and San Francisco (Nold, 2009). Writer Rebecca Solnit worked with artists and cartographers to create original maps associated with written essays, offering examples of personal and poetic perspectives on three American cities (Solnit, 2010; Solnit & Snedeker, 2013; Solnit & Jelly-Schapiro, 2016) (see Figure 9). Inspired by the singularity of personal stories, artist Becky Cooper (2013) invited Manhattan inhabitants to draw their own maps of New York City, emphasizing the amateur mapmakers' emotional connections to places through childhood memories, love stories and other sentimental markers. A blend of intimate places with artistic mapping is also a key element of Everything Sings (Wood, 2010b), a narrative atlas of Boylan Heights, a neighborhood in Raleigh, North Carolina. During the 1980s, Denis Wood and his students at North Carolina State University collected and mapped poetic and unusual elements of the city, such as Halloween pumpkins or street lamps to offer an alternative view of this

neighborhood (see Figure 10). These examples of non-functionalist atlases invite readers to look at specific places through maps from a unique perspective. They also expand the traditional notion of an atlas to propose a visual exploration of the multiple layers of meaning that exist within a place, embracing and mixing several artistic techniques to the mapping process such as collages, drawings, sculpture, paintings and even storytelling (see other examples in GNS, 2003; Harmon, 2004, 2009; Watson 2009; Monsaingeon, 2013).

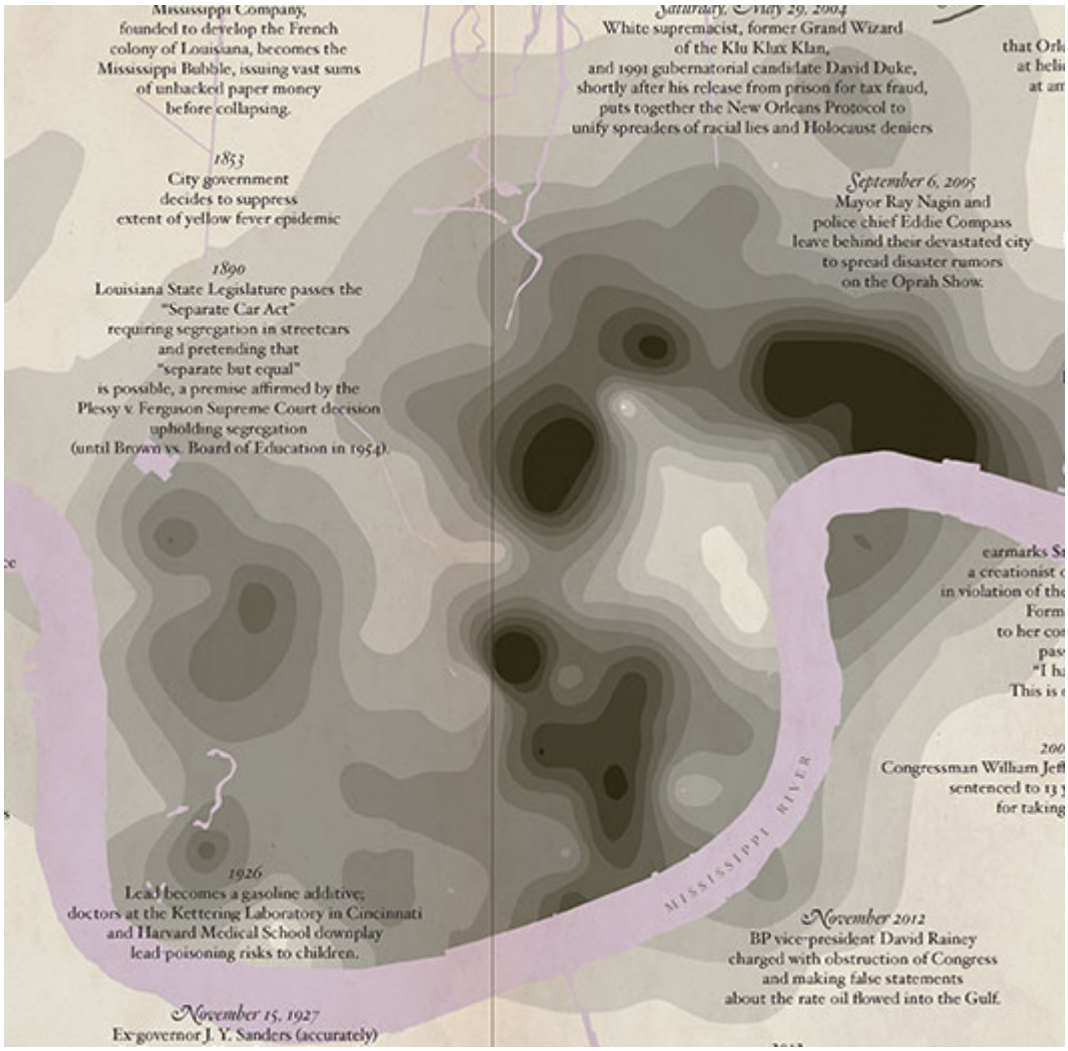


Figure 9. Close-up on the map “Lead and Lies” from Rebecca Solnit’s book Unfathomable City: A New Orleans Atlas (2013). In this map the author overlays the concentration of lead in the soil of the city with a series of political lies since 1699 that have affected the social and racial development of the city. Source: Used with permission of the publisher.

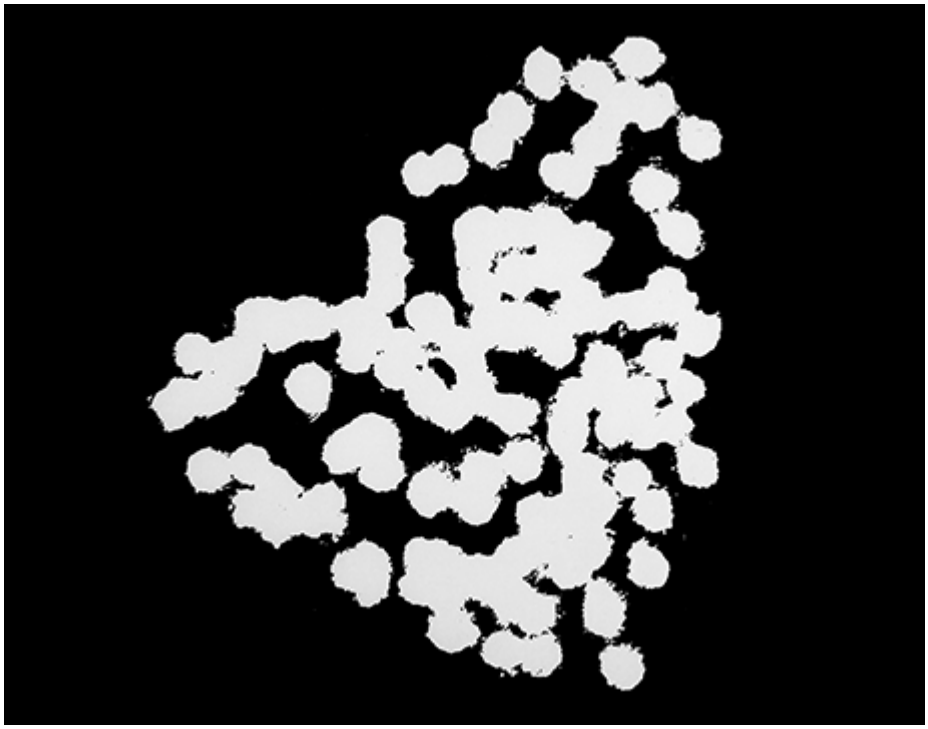


Figure 10. One of the maps in Everything Sings, by Denis Wood (2010b). Instead of focusing on traditional motifs - such as streets, buildings, or lands - Wood and his students mapped unusual elements of the city (in this case, streetlamps), in order to emphasize a kind of poetic narrative that is more “attentive to the experience of place” (Wood, 2015, p. 307). Source: Used with permission of the author.

This third intersection between art and cartography emphasizes the power of maps to see artworks from a spatial perspective, as well as to explore places through the artwork associated with them. The way that art and artists speak about places can be enhanced when cartography is mobilized, helping us to reach and grasp more emotional, personal, poetic and complex interpretations of these places.

6. Conclusion

This overview of relationships between cartography and art shows that the two domains have intersected on many levels throughout history. Artistic practices, combined with technological progress, have influenced the design of maps, as illustrated by “iconic” examples such as Beck’s London Underground Map (1933), a fundamental reference to all metro maps worldwide; The Earth from Space (1990), one of the largest selling images in the world; and Google Earth, which has redefined the way we use and interact with maps and globes since its release in 2005. All across the 20th century, avant-garde European movements such as Dadaism, Surrealism and Situationism have also unveiled and challenged the different forms of power underlying any cartographic endeavor, paving the way for the emergence of critical cartography. These movements have also inspired contemporary artists to express their own aesthetic and political visions of the world through maps. Finally, since the end of the 20th century, scholars from the humanities have discovered the power of maps to reveal hidden narrative structures embedded in novels and films. Accordingly, geographers, cartographers and other scholars have started to recognize this material as a meaningful source of geographical data that can be mapped to

better understand places.

This brief review suggests that the relationship between art and cartography has been growing in complexity. It is hoped that this can continue to produce new forms of maps and mapping practices that could help address the broad range of complex political, social and environmental issues that we are currently facing.

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