

Viral cartographies and fake maps on social media platforms

Cartografias virais e mapas falsos nas plataformas das redes sociais

Cartografías virales y mapas falsos en las plataformas de redes sociales

Jörn Seemann¹

<https://orcid.org/0000-0002-7105-4335>

¹ Ball State University, Muncie – Estados Unidos. E-mail: jseemann@bsu.edu.

Abstract

The Internet and social media have made a considerable contribution to the accelerated circulation and diffusion of information. News about people, things, and events frequently spread rapidly without a verification of their truthfulness and open space for fake news and “alternative facts”. This also refers to maps that are posted on platforms like Twitter, Facebook, and Instagram and frequently draw the attention of users and provoke reactions. In this context, the aim of this paper is to discuss maps posted on the Internet in post-truth times and in the light of a critical reading of reality. The paper discusses characteristics of these viral cartographies and fake maps and analyzes maps uploaded to and spread by cartography-themed online platforms. These examples show the reactivity of maps as arguments and ways of world-making that go far beyond the mere graphic representation of a theme or fact, that merge with political worldviews, moral values and cultural prejudice, and require new methodologies for map studies.

Keywords: Maps on the Internet. Viral Cartographies. Social Media. Fake News.

Resumo

A Internet e as mídias sociais têm contribuído consideravelmente para a circulação e a difusão aceleradas de informações. Notícias sobre pessoas, coisas e eventos frequentemente se espalham rápido sem a verificação de sua veracidade e abrem espaço para informações falsas e “fatos alternativos”. Isso também se refere a mapas que são postados em plataformas como Twitter, Facebook e Instagram e que constantemente chamam a atenção dos usuários e provocam reações. Nesse contexto, o objetivo deste artigo é discutir mapas postados na Internet em tempos de pós-verdade e à luz de uma leitura crítica da realidade. O artigo discute as características dessas cartografias virais e mapas falsos e analisa os mapas carregados e divulgados por plataformas on-line relacionadas com a cartografia. Esses exemplos mostram a reatividade dos mapas como argumentos e formas de criar mundos que vão muito além da mera representação gráfica de um tema ou fato e que se fundem com visões de mundo políticas, valores morais e preconceitos culturais, exigindo novas metodologias para o estudo de mapas.



Palavras-chave: Mapas na Internet. Cartografias Virais. Rede Social. Notícias Falsas.

Resumen

Internet y las redes sociales han contribuido considerablemente en la aceleración de la circulación y difusión de la información. Las noticias sobre personas, cosas y eventos con frecuencia se difunden rápidamente sin una previa verificación de su veracidad, abriendo un espacio para noticias falsas y "hechos alternativos". Esto también se refiere a los mapas que se publican en plataformas como Twitter, Facebook e Instagram y que con frecuencia llaman la atención de los usuarios y provocan reacciones. En este contexto, el objetivo de este artículo es discutir mapas publicados en Internet en tiempos de la posverdad y a la luz de una lectura crítica de la realidad. El documento discute las características de estas cartografías virales y mapas falsos y analiza los mapas cargados y difundidos por plataformas en línea relacionados con la cartografía. Estos ejemplos muestran la reactividad de los mapas como argumentos y formas de hacer mundos que van mucho más allá de la mera representación gráfica de un tema o hecho y que se fusionan con cosmovisiones políticas, valores morales y prejuicios culturales, requiriendo nuevas metodologías para su estudio.

Palabras clave: Mapas de Internet. Cartografías Virales. Redes Sociales. Noticias Falsas.

1 Introduction

*“And it's true we are immune
When fact is fiction and TV reality.”*

(U2 – Sunday, Bloody Sunday)

Information technologies, the internet, and social media platforms have changed the ways of understanding, making, and reading maps. Printed maps as static forms of visualization are now widely considered old-fashioned or outdated among map users, especially in the GI Science community, giving way to “maps 2.0” (Crampton, 2009) and “web mapping 2.0” (GARTNER, 2009) with their interactive, mobile, navigable, and zoomable digital products. The user is now the focus of map-making. He/she can create and edit maps or map-like images, post or repost them on social media, and share ideas and opinions about cartographic messages made public by others.

In the light of these new dynamics in Cartography, the aim of this paper is to analyze maps on social media platforms, how they spread, what impact they have on map users, and how they can be read in a time when fact and fiction are easily confused. How do maps spread over the Internet and in social media? How do people react to maps? What are the impacts of these maps? In order to address these questions, I will briefly discuss maps in the context of the

digital and virtual world of the internet, present examples of social media maps, and reflect on the consequences of this viral cartography as graphic and biased form of communication.

2 Rethinking maps in the age of online information

“Maps are never fully formed and their work is never complete. Maps are transitory and fleeting, being contingent, relational and context-dependent; they are always mappings.”

(Kitchin; Dodge, 2007, p. 331)

The trend of rethinking maps (Perkins, Dodge; Kitchin, 2007) in terms of their form, format, appearance, purpose, and function has resulted in a broader conception of what maps are and what they can do. On the one hand, this has led to an improved democratization of access to and use of data allowing marginalized groups to map, counter-map, and make “social, economic, political, or aesthetic claims” (Perkins, 2007, p. 127), facilitating collaboration among different social actors and accelerating the dissemination of information. Furthermore, the virtual environment gives instantaneous access to maps, but also blurs the differences between facts and fiction. As ambiguous visual messages, maps are made, remade, or unmade. They are invented, reinvented, or employed out of context. They can also be used jokingly, express political discourse, disturb, entertain, and provoke reactions. In other words, they become viral in a double sense. There is an instantaneous diffusion through social media platforms such as Twitter, Facebook, Instagram, or other apps reaching a large number of users in a short period of time and without any hierarchy. At the same time and similar to diseases, these maps are literally contagious. Once they are made public, the uncontrollable spread of worldviews, rumors, propaganda, and fake news cannot be stopped and even returns in secondary or tertiary waves. People can deliberately lie with maps (Monmonier, 2018), sources and origins become muddled, and authorship is concealed.

Can you still trust maps in a world of post-truth when emotions, subjective opinions, and personal beliefs gain more attention and credibility than facts (Kent, 2017)? This question is a return to the debates on the nature of maps from the late 1980s and early 1990s, when J.B. Harley proposed a social-critical approach to cartography to deconstruct the neutrality of maps conceiving them as texts that are projecting relations of knowledge and power (e.g., Harley, 1988, 1989). In the 21st century, the discussion has shifted from power relations in official maps as authoritarian voices to the power of any kind of image as visual device of opinion, emotion,

deception, and distortion. Maps are increasingly used as arguments and propositions (WOOD, 2010, p. 8) and persuasive technologies (Harley, 1989; Tyner, 1982; Muehlenhaus, 2014). They are never the reality, but help to create a different reality (Harley 1989, p. 14).

The Internet and social media platforms have contributed to the popularity of maps as means of communication and expression of ideas and worldviews. Maps can literally go viral like any other type of news (Robinson, 2019) and “elicit widespread attention from online users and media organizations” (Shannon; Walker, 2019, p. 1). These maps show less concern with formal aspects such as scale, coordinates, projections, or cartographic conventions and emphasize the message that their creators intend to convey.

How can these viral maps be classified? Robinson (2019, p. 13-14) proposes a classification according to authorship and originality: (1) primary maps with original design by the author, shared on social media and viewed by a large audience, (2) repurposed maps to which comments and contexts are added, (3) derived maps whose existing design was modified, and (4) inspired maps with new designs resulting from the posting of a primary map. This typology is useful in the sense that it emphasizes the dynamics and fuzziness of online viral images, but it only focuses on the images and their transformed appearance without addressing contents and social and cultural impacts. An additional factor is that maps are not only modified, but can also be vandalized, as in the case of the collaborative mapping project OpenStreetMap and Pokémon GO that have suffered from deliberate digital changes, deletions, and other defacements by users (Ballotore, 2014; Juhász, Novack, Hochmair; Qiao, 2020).

Claire Wardle (2020) proposes a general taxonomy for misinformation (incorrect or misleading information) and disinformation (deliberately falsified information) that can be applied to online maps. She presents the following seven types of problematic content, from visual jokes to intentionally misleading images (Table 1):

Table 1 – Taxonomy for map misinformation and disinformation (compiled from Wardle [2017]).

Type	Purpose
Satirical map or map parody	No intention to harm, but potential to fool
False connections map	Titles, visual elements, and captions are used to support the content
Maps with misleading content	Deliberative use of incorrect information to frame an individual or issue
Maps with false context	Content is genuine but out of context
Imposter maps	Impersonation of genuine information sources
Maps with manipulated content	Manipulation of genuine information or imagery to deceive
Maps with fabricated content	False content is designed to deceive

Source: Author's compilation based on search on Facebook

Maps are not static cartographic representations, but processes in constant becoming or unfolding (Kitchin; Dodge, 2007), subject to changes, resignification, or deletion from one day to another. Ishveena Singh (2022), the creator of the website *geoawesomeness.com*, presents a list of elements of viral maps that contribute to their swift diffusion: simplicity (easy to understand), usefulness (answering a question of interest), aesthetics (visually engaging appearance), emotional resonance (provokes personal reactions), humor (entertainment value), and topicality (current theme of general interest, e.g., elections).

3 Maps in the social media landscape

*“I like maps because they lie.
Because they give no access to the vicious truth.
Because great-heartedly, good-naturedly
they spread before me a world not of this world.”*
Wisława Szymborska – *Map* (Szymborska, 2016, p. 433)

Maps are popular objects on the internet. Besides numerous personal and institutional webpages and blogs, social media platforms have become popular outlets to talk about maps. Facebook, Instagram, and Twitter host discussion groups and personal accounts that deal with maps of all kinds and formats, from scanned historical maps, contemporary thematic maps, and

satellite images to infographics, mental maps, and cartographic jokes. Each platform has its own dynamics with regards to interactivity and degree of virality. Maps are posted, reposted, and sometimes unposted for diverse reasons (e.g., negative repercussion or censorship). People can share or modify them. Maps provoke reactions in the form of “likes”, emojis, and comments that result in yet other replies, sometimes in the form of another map.

In the following two sections, I will present a brief overview of map-related sites or accounts on the three most popular social media platforms worldwide and provide details about their contents and popularity, illustrated by two recent examples to point out the nature of viral online maps (consultation on October 26th, 2022).

3.1 Facebook

According to Statista (2022a), Facebook is globally the largest social media platform with approximately 2.91 billion monthly active users, followed by YouTube (2.562 bi), WhatsApp (2 bi), and Instagram (1.478 bi) (January 2022). Unlike YouTube (videos that allow comments) and WhatsApp (conversations in private groups), Facebook allows more interactive engagement since users can create, share, and like posts. Table 2 is an overview of a selection of Facebook groups that focus on maps. Most of them are relatively recent (less than a decade of existence) considering that Facebook was created in 2004. The number of followers varies and goes from tens of thousands to more than half a million, as in the case of Terrible Maps which started as a Twitter account in 2013.

Table 2 – Selection of map-related Facebook groups with a large number of followers.

Name of group	Date of creation	Followers in 1000s	Additional information	Examples of recent posts
Judgmental Maps	April 2013	40	Maintains a website at www.judgmentalmaps.com .	<ul style="list-style-type: none"> • Football teams you should care about this season (none) • Judgmental maps of Florida (FLAR DUH, Florida, Cuba) • The most overrated city in each state
Online Maps Blog	January 2012	44	Maintains a website at https://mapsontheweb.zoom-maps.com .	<ul style="list-style-type: none"> • Pronunciation of the name of the letter A in European languages • 6 ways to divide Germany • Political position of the ruling political party in European countries
Simons Shows You Maps	October 2018	184	Description provided by group administrator: "I am a connoisseur and curator of wonderful maps and charts. On this page I share my favorites." Maintains a website at wwwsimonk.com.au .	<ul style="list-style-type: none"> • South America as islands • The most common street names across Europe • Name for Germany in European languages
Strange Maps	July 2016	113	Facebook version of an online blog that started in 2006. Current website at bigthink.com/strange-maps .	<ul style="list-style-type: none"> • Map of Poland on a 1966 stamp that shows the country's tourist attractions • What would a nuclear bomb do to your city? • Why Americans in the East are surrounded by towns and cities named after ancient Greece and Rome?
Terrible Maps	February 2016	602	Originally a Twitter account created in 2013 (see table 4).	<ul style="list-style-type: none"> • Antarctica, the confusing continent (indication of cardinal directions) • Electricity consumption in Europe in 1507 • Petting chart for your cat/dog
What Projection Is This	March 2017	71	Description of group: "consider this group your source for all things related to weird, wonderful, or downright dismal map projections. Other map content is welcome too."	<ul style="list-style-type: none"> • Percentage of county areas dedicated to pumpkins, 2017 • Top 5 countries with most Spanish speakers • Map of main cities of football leagues around Mexico

Source: Author's compilation based on search on Facebook

Many of these map groups with a large number of followers on Facebook are byproducts for commercial activities. The group administrators or owners frequently maintain accounts on other social media platforms and websites that are used to sell map prints or books, as in the case of Judgmental Maps (Gillaspie, 2016)¹ and Strange Maps (Jacobs, 2009). Whereas the former's basic principle is simply to add texts to a base map and express stereotypes and prejudice against places or populations, the later addresses cartographic curiosities from the past and the present. Groups such as Online Map Blog, Simon Shows You Maps, and What Projection Is This focus on contemporary themes. Terrible Maps, the most popular map-related Facebook group, uses a more humorous approach. Among the posts are creative or artistic map solutions such as a map of France made out of charcuterie specialties (June 8th, 2022) and map jokes such as the “map of Europe drawn out of memory,” showing Europe as an assemblage of computer memory modules (June 9th, 2022, reposted on October 28th, 2022).

3.2 Instagram

Instagram was created in 2010 and bought by Facebook in 2012. The platform emphasizes photo and video sharing over text messages. Table 3 lists a selection of larger accounts that discuss maps. The data on these pages are similar to the numbers for the Facebook groups. Most of the accounts were created in the last six years and have a considerable number of followers. Some of these accounts indicate a place reference to their owner, e.g., Maps.n.more is located in the Netherlands and claims to be the “world's first Instagram map page” with almost 5000 post in a six-year period.

¹ Judgmentalmaps.com also allows users to submit maps of their own city or town to share on the website.

Table 3 – Overview of map-related Instagram accounts with a large number of followers (selection).

Account	Date of creation	Followers in 1000s	Additional information	Examples of recent posts
Amazing_Maps	May 2020	102	Runs a commercial website for the sale of map products. 434 posts.	<ul style="list-style-type: none"> • Apple or Android: most preferred phone by country • Countries where French is spoken • A map of Finnic languages
Amazinmaps	October 2017	68.1	2075 posts. Owner in the Netherlands	<ul style="list-style-type: none"> • Year of war entry during World War 1 • Is your country invited to the Queen's funeral? • English speakers in Europe
Brasilemmapas	November 2017	256	Description by account holder: "Data on Brazil in visual maps." 461 posts. Owner in Brazil.	<ul style="list-style-type: none"> • Bean consumption per capita in Brazil • How many minutes is a baby born in Brazil? • Vote intention for Brazilian president in 2022 election
Ifuckinglovemaps	Not provided	364	Description: "Maps that keep you updated. We share maps developed by others. We create our own maps." 3053 posts.	<ul style="list-style-type: none"> • How much seafood do people around the world consume? • 2022 Highest Growth Economies • Annual waste generation by households
maps.are.amazing	June 2021	72	Description: "Maps that are developed from other creators for your entertainment." 927 posts. Owner in United States	<ul style="list-style-type: none"> • Is it a crime to knock on a door and run away? • The true size of Africa • Cave systems in the U.S. vs disappearances without a trace
maps.n.more	August 2016	248	Claims to be the "world's first Instagram map page!" 4941 posts. Owner in the Netherlands. Maintains an online shop.	<ul style="list-style-type: none"> • Walking-pedestrian traffic-signs used by countries in Europe. • Armenia's territories currently occupied by Azerbaijan • "Spanking" Children legality
The.world.in.maps	Not provided	64.9	1684 posts. Also maintains a Twitter account. Link to ko-fi platform for donations: "All proceeds from Ko-Fi go towards time, effort and resources for making the World in Maps come true!" Owner in Belgium.	<ul style="list-style-type: none"> • The spread of the Sanskrit word "sarkara" (sugar) across the Old World • Real house price changes in the last 40 years • Where do Venezuelans emigrate to?

			Changed the name four times.	
Thinkaboutmaps	April 2018	175	Description: "Maps about geography, climate and the world." 2,201 posts. Owner in Brazil. Name of account has been changed two times. Maintains an online shop.	<ul style="list-style-type: none"> • Georgia (country) compared to Georgia (U.S. State) • Regional giraffe patterns in Africa • Radioactive cloud moving through Europe after the 1986 Chernobyl disaster

Source: Author's compilation based on search on Facebook

A curiosity about these Instagram accounts is that there are copycats of names. At least six pages use the combination of amazing and maps, but only three of them have a larger number of followers. Amazinmaps2 (without the g) is a mirror of amazinmaps, but only has 11 posts and 492 followers. Amazing_maps (with one underscore) can be confused with amazing__maps (with two underlines) and originates from a Twitter account created in 2013, whereas amazing.maps (with a dot between the two words) is only followed by 89 users and has only 19 posts.

The themes listed in the last column show that Instagram posts frequently deal with current affairs (Is your country invited to the Queen's funeral?) and somewhat questionable correlations, e.g., cave systems in the U.S. and the disappearance of people without leaving a trace. This particular map drew attention because of its content and was discussed on www.snopes.com, a fact-checking website that investigates the veracity of rumors, including maps. In the post on the website, the fact checker admits that there is a partial correlation between caves and missing persons, but "correlation does not imply causation" (EVON, 2020).

3.3 Twitter

Compared to Facebook and Instagram, Twitter has a relatively modest number of worldwide users (defined as those who access their account via any device at least once per month), about 329 million (Statista, 2022b). However, the lower number of accounts does not mean that there is less activity. Twitter allows faster and more spontaneous reactions and sharing options, similar to sending a quick text message. Table 4 is a selection of map-related Twitter accounts, some of them date back to 2011.

Table 4 – Overview of map-related Twitter accounts with a large number of followers (selection).

Account	Date of creation	Followers in 1000s	Additional information	Examples of recent map posts
Amazing maps	July 2013	279.2	Description by account holder: “The original Twitter map account bringing you the most amazing maps on the internet.” 1861 tweets. Latest post in September 2021.	<ul style="list-style-type: none"> • Highest point in each U.S. county • Legal systems around the world • River map of the USA
Amazing Maps TM	March 2011	328.9	Description: “Amazing maps brought to your attention.” 10100 tweets. Also on Facebook as amazingmap1.	<ul style="list-style-type: none"> • None of the countries that bordered Poland before 1990 exists today • The world is a cat playing with Australia • Fatalities from texting and driving in 1960
Beautiful maps	January 2014	51	Description: “The maps and infographics most beautiful, funny and curious of the world.” 5828 tweets.	<ul style="list-style-type: none"> • Futuristic movie timeline • NATO’s Eastern flank: stronger defense and deterrence • It’s 70 degrees warmer than normal in eastern Antarctica
Brilliant maps	August 2014	120.8	Description: “An atlas for curious minds.” 10600 tweets. Advertises book and website at www.brilliantmaps.com . Also on Facebook.	<ul style="list-style-type: none"> • The most popular smartphone brand in the world • Best-selling singer, music artist or band from each U.S. State • The most popular beer brands in the world
I Fucking Love Maps	January 2015	36.9	Description: “Maps that keep you updated. We share maps developed by others. We create own maps.” 4171 tweets. Also on Facebook under IFLOVEMAPS. Has own online map shop.	<ul style="list-style-type: none"> • Countries invited to 2021 Summit for Democracy by democratic status • Average CO₂ emissions per capita in selected regions in 2019 • EU member states prostitution policies by type
MapPorn	January 2017	80.2	Official Twitter account of site with same name on Reddit. 28000 tweets.	<ul style="list-style-type: none"> • 1943 global map showing the insignia on aircraft of various countries • The city of Toledo by the Spanish painter El Greco (1610-1614) • New Orleans’ streetcar

				system in 1875
Terrible Maps	August 2013	869.7	Description: “The home of terrible maps with a pinch of humour.” 1064 tweets. Also maintains an account on Instagram	<ul style="list-style-type: none"> • The entirety of South America lies east of Michigan • Places where sewage dumping has taken place over the weekend in the UK • Locations Johnny Cash claims to have been in “I’ve been everywhere.”

Source: Author's compilation based on search on Facebook

The maps on Twitter are not very different from the ones on Facebook and Instagram. Comparing the themes, it is common to find the same or similar posts on all three platforms, sometimes as shares, reposts, or modified messages.

4 Reading online map posts

“A map may lie, but it never jokes.”

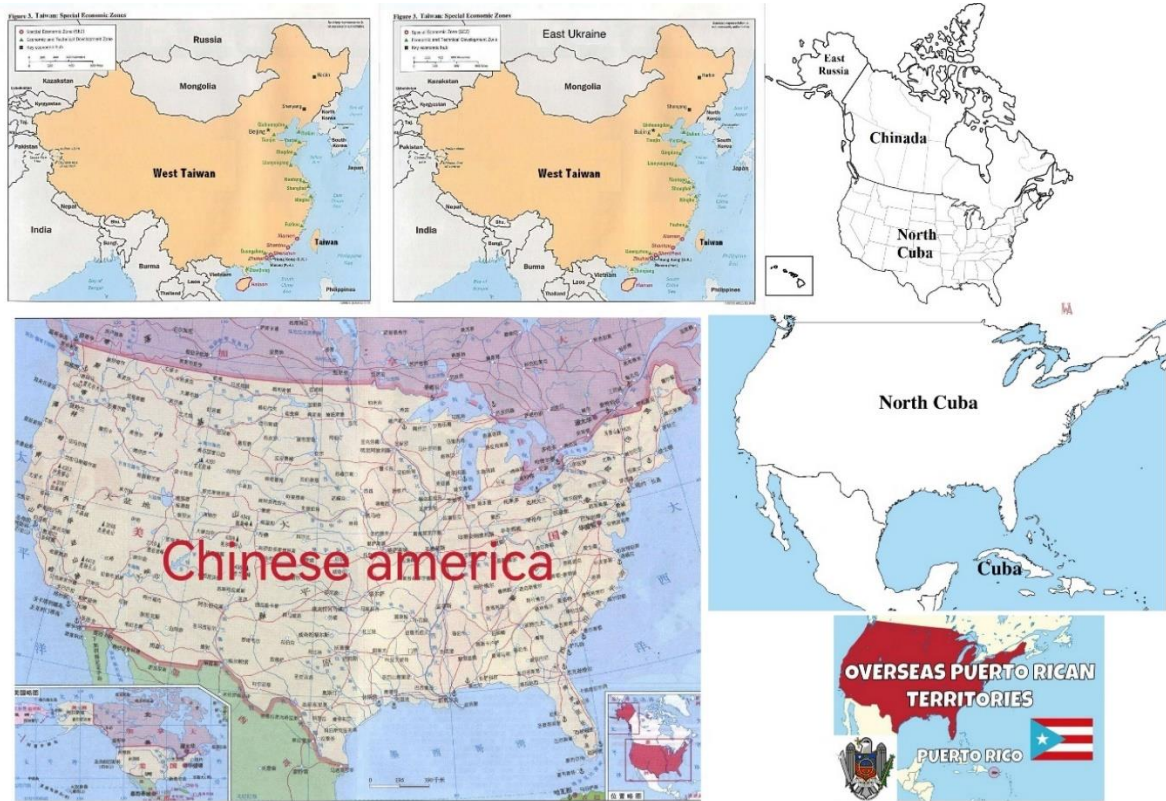
Howard McCord – Listening to maps (McCord, 1971, p. 10)

In this section, I will discuss two examples of viral maps from the social media platforms described above. The posts follow diverse purposes and express political worldviews. They are meant as provocation, relate and narrate curious facts, are guided by humor, or are fake news.

4.1 Contested worldviews

A specific feature of Twitter is that it allows the account holder to pin a Tweet. He/she can select a specific post as opening message on his/her page. Terrible Maps (2022), with by and large the highest number of followers among all map-related accounts, pinned a tweet from July 20th, 2022 as its October 2022. It shows a map of China with the label West Taiwan. Up to date (October 26th, 2022), the tweet has received 2837 comments, 7951 retweets, and more than 72900 likes. The reactions to the post are of different natures, sometimes even in visual forms (Figure 1).

Figure 1 – Viral geopolitical map on Twitter and map reactions.



Source: <https://twitter.com/TerribleMaps/status/1653490798875365386>

One user, Dmytro (@indoor47), who uses emoticons of three flags (rainbow, Taiwan, and Ukraine) in his identification, pushed the geopolitical conflict into a different direction by editing the original map (8/2/22). The name Russia is replaced with the term “East Ukraine” and the user writes “Map was a bit imprecise. Improved it. Looks good now.” Dmytro’s reply resulted in yet 74 other comments, 7 retweets and 85 likes, e.g., “lol that took me a while”, “Imfao,” and “Ukraine should be West Russia.”

Some viewers were offended by the tweet. One of the replies in Chinese by @LKIKI2333 (8/2/22) complains about the map and its maker: “Your brain doesn’t look very good, it may not be able to improve it, I hope you just change your brain” (translation from original). Another Chinese-language comment (posted on the same day by @y72150125) read “Wow, look I found a big idiot who plays smart, do you think you are very humorous, a clown who jumps on the beam [emoji of clown face].”

The original tweet received several map replies. EVEN (@EVEN_zzzz, with the emoticon of a Chinese flag) posted a map of the United States with place names in Chinese and the label “Chinese america” printed in large red letters in the center. Another user uploaded a map of the United States labeled as North Cuba and received 109 replies, 544 retweets, and 4327 likes. Among the replies was another map of North America depicting Alaska as East Russia. Six users replied to this tweet which was retweeted 13 times and liked by 140. The “reply to the reply to the reply” resulted in yet another map, but now with no comments, only three retweets and 17 likes. On it, besides North Cuba and East Russia, Canada was relabeled as Chinada.

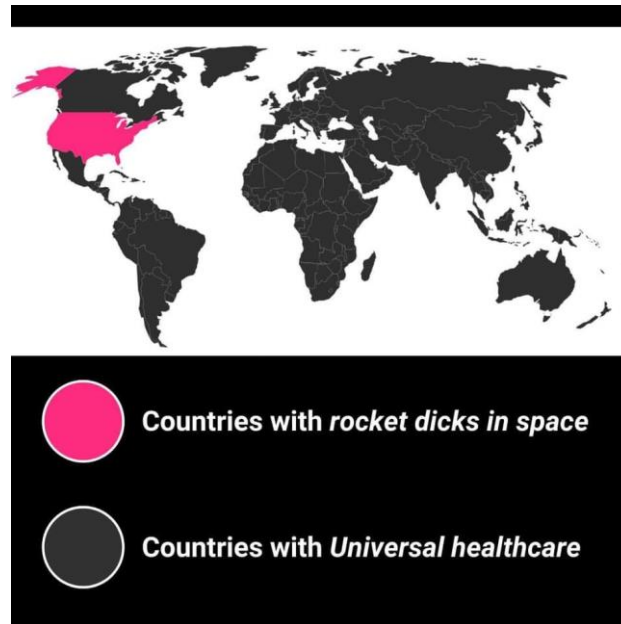
Many of these maps only underwent minimal changes. Their general appearance remained the same since only words were added or replaced by others. The contested China map is an example of how diverse reactions to a tweet can be, from humor and jokes to serious critique and outright protest. For example, @hhhhhoouua (reply on 8/2/22) wrote “What kind of map is this? As a Chinese, I am really sad to see this map. Anyway, China’s territory belongs to China from beginning to end. I also hope that everyone will respect our country [smiley face].” The comments reveal diverging political views and are frequently linked to other geopolitical conflicts, as in the case of Ukraine. Conversations on Twitter follow a dendritic communication pattern that does not only contain replies to an original tweet, but also replies to replies.

Terrible Maps posted the same image on the same day in its Facebook group, obtaining similar results (more than 2500 comments and 6500 shares), even repeating comments that also appeared on Twitter. The pinned tweet hides the fact that the same map had already been posted on both Twitter (receiving 222 comments, 1749 shares and 14500 likes) and Facebook (1800 comments, 8300 shares and 32000 likes) on November 27th, 2021. The earlier edition included a wave of different comments and memes and yet other maps such as the one posted by J.A. Hernandez on 11/27/21: a map with the coat of arms for a sovereign Puerto Rico flag. The United States are labeled as “OVERSEAS PUERTO RICAN TERRITORIES”, with the following comment: “It’s funny to see Americans laugh about ‘West Taiwan,’ then get all serious and pissed about a joke map about the Overseas Puerto Rican Territories in North America. Hahahaha. It’s a joke people! PR would never deny Americans their freedom.”

4.2 Fake news

On July 22nd, 2021, a map alluding to the news that the billionaire Jeff Bezos completed his first private travel to outer space in his own spaceship appeared on social media. Though it is impossible to confirm the original source, one of the first mentions of this trip was made on a Twitter account run by a user called LADY BUNNY (@LADYBUNNY77) and received 49 comments, 3355 Retweets, and 26000 likes. The map design is very simple: a world map in two colors. All countries of the world are in dark grey (meaning countries with universal healthcare), whereas the United States are marked in pink as the only country “with rocket dicks in space” (Figure 2).

Figure 2 – Billionaires in space versus universal healthcare.



Source: <https://twitter.com/LADYBUNNY77/status/1418182346528935942>

Similar to other posts, the map aimed to provoke people. Replies were going into different directions. People made the correction that there are many other countries without universal health care; others shared their first-hand experience in “3rd world hell-holes” (EXTRA WELL HEALTH SAFETY INSPECTOR @Northman_777, 8/2/21); yet others even made sexual allusions: “USA I’m coming to get myself some Rocket Dick [rocket emoji]” (Tyler @tylerfage, 7/22/21). Users took the information and correlation in the map for granted

and only few questioned the contents: “so I’m really not sure how the two are related” (Cristine Rice @PstafarianPrice, 7/22/21).

What is peculiar about this case is that the map spread rapidly on the Internet and was picked up by the author of this paper who found the story about the space dildo entertaining and decided to share the image on his Facebook page. On the next day, he received a message from Facebook telling him that the map is “false information. Checked by independent fact-checkers.” The image was removed from the page, but still could be opened. A “see why” button in the message window directed the user to a fact-checker webpage which corrected the disinformation: “independent fact checkers say this information has no basis in fact” (Clarke, 2021), educating the Internet user that the United States are not the only country in the world without universal health care: “At least nine other countries did not have viable universal health care as of 2020” (Clarke, 2021). A click on the hyperlink on the text “nine other countries” led to yet another webpage where all ten countries without public health system are listed: South Africa, Iran, Egypt, Nigeria, Afghanistan, Pakistan, Yemen, Syria, China, and the United States (Shvili, 2020). The first sentence below the title states the following: “The United States is still the only country *in the developed world* without a system of universal healthcare” (my emphasis).

This example shows how easy false or incorrect news can spread. Focusing on the funny story about “dick rockets,” it is easy to overlook the second story about universal health care so that misinformation and disinformation spread unintentionally. How does this diffusion work from the perspective of someone who puts a false map into circulation? Brian Brettschneider, a climatologist and former contributor to Forbes magazine, provides insights into how fake maps become viral on the internet. In 2018, he decided to make a map showing the favorite Thanksgiving Day pie by region in the United States. He purposefully left out the most prominent ones (pumpkin and apple pie) and added uncommon pies (e.g., coconut cream and blackberry) in the map with a division of “pie regions” with “bizarre regional boundaries” (BRETTSCHEIDER, 2020). Intended as a joke that “would create a few laughs within the circle of people that follow me,” the tweet went viral, offended other users and followers and even became a political issue when it was hash tagged as #FakeNews by a senator from Texas. Brettschneider wrote,

“It became clear that people were taking it seriously – and were greatly offended. While on the phone at work on a conference call, my phone started buzzing. My Twitter notifications were going crazy. Many people from Texas were aghast that key lime pie was shown for Texas and vehemently defended their pie honor. Clearly someone prominent had shared it. A little while later, I found out it was U.S. Senator Ted Cruz. He declared it Fake News” (Brettschneider, 2020).

The harmless pie joke map even became a topic for the discussion on race and racism. In a second wave of comments, replies were addressing the differences between the favorite pies for White and Black Americans identifying race-related messages in the map:

“Key lime pie and coconut cream pie were described as ‘white’ in many of the comments. This makes sense, since key lime pie, in particular, is something typically ordered at restaurants, not made from scratch. People with substantial disposable income are more likely to order desert at a restaurant” (Brettschneider, 2020).

On November 24th, 2021, Brettschneider posted an updated version of his map to “close the case.” The map shows a closer-to-the truth regional division and the images of only three pies: apple, pumpkin, and key lime. The post received 125 comments, was liked 282 times, and retweeted 72 times. Like many other online maps, it provoked positive and negative reactions, agreeing or disagreeing with the regional traditions of specific pies in the U.S.

5 Conclusion

“A map says to you, ‘Read me carefully, follow me closely, doubt me not.’”

(Markham, 1942, p. 245)

The aim of this paper was to reflect on how social media has impacted maps and their meanings and functions. Reading social media map posts goes beyond description and appearance. These virtual and viral maps are not mere documents, but arguments hidden behind the anonymity of usernames or fictitious identities that require an in-depth investigation of their “social life,” i.e., “the work that maps do, how they act to shape our understanding of the world, and how they code that world” (Pickles, 2004, p. 12). On the internet, users interact with the maps through comments, retweets, likes, counter-maps and

“accept or challenge the propositions made by maps about the physical and social world. In this sense, viral maps are not simply ‘small talk,’ ... Rather, they might reveal converging or diverging epistemological stances in the ways we collectively name and understand the world and build consensus for social and political action” (Shannon; Walker, 2020, p. 68).

Virtual and viral cartographies make it more difficult to discern fact from fiction or joke from ideology. Spontaneous reactions, emotions, and personal opinions appeal more to the users than reasoning and the verification of sources. The study of viral maps poses various challenges, for example, the difficulty or even the impossibility to trace a map hoax back to its original source to literally map its diffusion which happens almost instantaneously and simultaneously on the internet. With a simple click, fake news can be spread or deleted. The discussion of a tweet or a post is continuous since new replies can be added any time and other users can retweet, share, or repost, even after months or years, frequently resulting in a second or third wave of dissemination. The fuzziness and messiness of these big qualitative data (Seemann, 2020) pose a problem for the researcher. Different from official sources and references, information is scattered, volatile, and rarely fits into the norms of academic publishing so that the researcher is questioned about the veracity of his or her data collection.

Finally, the subfield of media literacy has contributed to teaching awareness about the power of images and how to protect social media users against misleading information. This is easy to say in theory but requires more than fact-checking since these maps will always have a life of their own and an impact on society.

References

BALLATORE A. Defacing the map: cartographic vandalism in the digital commons, **The Cartographic Journal**, v. 51, n. 3, p. 214-224, 2014.

BRETTSCHEIDER, B. **Lessons from posting a fake map**. 2018. Disponível em: <https://www.forbes.com/sites/brianbrettschneider/2018/11/23/lessons-from-posting-a-fake-map/>. Acesso em: 1º nov. 2022.

CRAMPTON, J. Cartography: maps 2.0. **Progress in Human Geography** v. 33, n. 1, p. 91-100, 2009.

EVON, D. **Does map of missing persons in U.S. match up with cave systems?** 2020. Disponível em: <https://www.snopes.com/fact-check/missing-persons-cave-maps/>. Acesso em: 30 out 2022.

- GARTNER, G. Web mapping 2.0. *In*: PERKINS, C.; DODGE, M; KITCHIN, R. (org.) **Rethinking maps**. New frontiers in cartographic theory. London: Routledge, 2007, p. 68-82.
- GILLASPIE, T. **Judgmental maps**. Your city. Judged. New York: Flatiron Books, 2016.
- HARLEY, J. B. Deconstructing the map. **Cartographica**, v. 26, n. 1, p. 1-20, 1989.
- HARLEY, J. B. Maps, knowledge and power. *In*: COSGROVE, D.; DANIELS, S. (org.) **The iconography of landscape**. Cambridge: Cambridge University Press, 1988, p. 277-312.
- JACOBS, F. **Strange maps**. An atlas of cartographic curiosities. New York: Viking Studio, 2009.
- JUHÁSZ, L.; NOVACK, T.; HOCHMAIR, H.H.; QIAO, S. Cartographic vandalism in the era of location-based games - the case of OpenStreetMap and Pokémon GO. **ISPRS - International Journal of Geo-Information**, v. 9, n. 197, p. 1-20, 2020.
- KENT, A. Trust me, I'm a cartographer: post-truth and the problem of acritical cartography. **The Cartographic Journal**, v. 54, n. 3, p. 193-95, 2017.
- KITCHIN, R.; DODGE, M. Rethinking maps. **Progress in Human Geography**, v. 31, n. 3, p. 331-344, 2007.
- MARKHAM, B. **West with the night**. Boston: Houghton Mifflin Company, 1942.
- MCCORD, H. Maps. **Poems toward an iconography of the West**. Santa Cruz, CA: Kayak Books.
- MONMONIER, M. **How to lie with maps**. 3. ed. Chicago: University of Chicago Press, 2018.
- MUEHLENHAUS, I. Going viral: The look of online persuasive maps. **Cartographica**, v. 49, n. 1, p. 18-34, 2014.
- PERKINS, C. Community mapping. **The Journal of Cartography**, v. 44, n. 2, p. 127-137, 2007.
- PERKINS, C.; DODGE, M; KITCHIN, R. (org.) **Rethinking maps**. New frontiers in cartographic theory. London: Routledge, 2007.
- PICKLES, J. **A history of spaces: cartographic reason, mapping, and the geo-coded world**. London: Routledge, 2004
- ROBINSON, A. Elements of viral cartography. **Cartography and Geographic Information Science**, v. 46, n. 4, p. 293-310, 2019.
- SEEMANN, J. Facebook cartographies and the mapping of local history: storied maps from the American Middletown. *In*: VANNIEUWENHUYZE, B.; SEGAL (org.) **Motion in maps - maps in motion**. Mapping stories through movement and time. Amsterdam: Amsterdam University Press, 2020, p. 153-176.

SHANNON, J.; WALKER, K.E. Ventures into viral cartography: Waffle House, educational attainment, and the social life of maps. **The Professional Geographer**, v. 72, n. 1, p. 66-77, 2020.

SHVILI, J. **10 Countries without universal healthcare**. Disponível em: <https://www.worldatlas.com/articles/10-notable-countries-that-are-still-without-universal-healthcare.html>. 2020. Acesso em: 1º nov. 2022.

SINGH, I. **Virality in cartography: What makes a map go viral?** 2022. Disponível em: <https://geoawesomeness.com/viral-cartography-what-makes-map-go-viral/>. Acesso em: 31 out. 2022.

STATISTA. **Most popular social networks worldwide as of January 2022, ranked by number of monthly active users**. 2022a. Disponível em: <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>. Acesso em: 31 out. 2022.

STATISTA. **Number of Twitter users worldwide from 2019 to 2024**. 2022b. Disponível em: <https://www.statista.com/statistics/303681/twitter-users-worldwide/>. Acesso em: 31 out. 2022.

SZYMBORSKA, W. **Map**. Collected and last poems. New York/Boston: Mariner Books, 2016.

TYNER, J. A. Persuasive cartography. **Journal of Geography**, v. 81, n. 4, p. 140-44, 1982.

WARDLE, C. **Fake news**. It's complicated. 2017. Disponível em: <https://medium.com/1st-draft/fake-news-its-complicated-d0f773766c79>. Acesso em: 31 out. 2022.

WOOD, D. **Rethinking the power of maps**. New York: Guilford Press, 2010.

Enviado em: 07/12/2022

Aprovado em: 12/05/2023