Special Issue Article

new media & society
2022, Vol. 24(11) 2514–2530

DOI: 10.1177/14614448221122230
journals.sagepub.com/home/nms
SAGE

A genealogy of social geomedia: The life, death, and (possible) afterlife of location-based social networks

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Abstract

In the early 2010s, location-based social networks (LBSNs) received significant attention from both the public and venture capital. The "LBSN moment" was an important period of early mobile geomedia history, and this article argues that the reverberations of that moment still shape the contemporary social geomedia landscape. This article examines the LBSN moment through a media genealogy approach that views the period as a moment of juncture for the development of social location-sharing, which ended up being dominated by large platforms like Facebook and Uber. The article also draws from research on technological development to push back against narratives of inevitability and argue that specific dynamics of the LBSN moment, particularly the double-edged sword of hype, closed-off avenues for the media form. The article ultimately uses an interventionist genealogical approach to explore different paths that could have been—and still could be—taken.

Keywords

Geomedia, hype, LBSNs, mobile communication, smartphones, social media

One of the challenges of researching emerging media is how fast the media landscape can shift. In few cases is that truer than with location-based social networks (LBSNs),[1] which were hyped at one point as a possible future of social media (Burke, 2011; Wired, 2009). These applications, which included examples such as Loopt, Latitude, Brightkite, Foursquare, and Gowalla, were a form of geomedia—a concept used to understand

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media that "are inherently place contingent, meaning that they automatically register and respond to user location" (Fast et al., 2019, p. 89—that focused on people "checking in" to share their physical location with friends. LBSNs received significant venture capital funding in the late 2000s/early 2010s, had tens of millions of users, were featured in major articles in the tech press, and became a significant focus of academic research in both the geomedia and mobile communication studies (MCS) subfields (Fast et al., 2018; Wilken and Goggin, 2015). For about a 5-year period, LBSNs burned brightly, but they maybe did so by flying too close to the sun. By 2014, the LBSN hype had faded. Most LBSNs shut down, and the one prominent remaining LBSN—Foursquare—shifted its focus away from social location-sharing.

The history of media technologies is filled with technologies—including social media platforms like Friendster and Myspace—that received significant hype but were not sustainable (boyd & Ellison, 2008; Geels and Smit, 2000). However, what I call the "LBSN moment"—a period ranging roughly from 2007 to 2014—is a more complicated period in the history of geomedia than it may at first seem. As I argue, the LBSN moment is a crucial juncture in the development of social geomedia. It was a key early moment of public attention for geomedia, but more crucially, it was a moment in which specific dynamics of hype and disappointment had impacts that, I argue, are still being felt in the social geomedia landscape of today. After all, while most LBSNs folded by 2013, the core features of these applications, primarily the ability to share location with other people and create a digital record of mobility, did not disappear. What happened instead was that social location-sharing primarily moved in two directions (Wilken, 2018, 2019):

1. Location-sharing features were swallowed up by the dominant entities of the digital media landscape, most notably Google and Facebook and Apple, though other large platforms like Snapchat also have social geomedia features.
2. Location-sharing was implemented by platforms that use mapping individuals for primarily goal-directed purposes. One example would be dating applications like Tinder, but mapping individuals also became key to platforms like Uber and AirBNB that adapted social location-sharing for primarily consumerist purposes (Agur and Babones, 2021; Jansson, 2019).

Consequently, the LBSN moment of competing apps specifically focused on sharing location with social networks transformed into something else entirely. A possible path forward for social geomedia was closed as social location-sharing became consumed by larger applications and built into transactional platforms.

One way of looking at the LBSN moment was that LBSNs were merely an early stage of social geomedia, one that almost inevitably was preceded by later "generations" (Wilken, 2018). In that sense, LBSNs could be seen as an important footnote in the history of geomedia, but still likely just a footnote. However, this article pushes back on narratives of inevitability or generational progress and instead argues that the LBSN moment showed an alternative path forward for social geomedia that became closed off for reasons that were far from inevitable. I make that argument first by situating LBSNs within the development of geomedia studies and then explaining a methodological approach adapted from media genealogy. I then examine a geneaology of the LBSN

moment and then shift to a discussion that places the LBSN moment in conversation with research on technological development to examine why certain paths became closed.

The conclusion often drawn from the shuttering of LBSNs is that location-sharing itself is not enough to support a successful platform (Sample, 2013), and that may be the case. As explored later, that belief still shapes venture capital funding more than 7 years after the LBSN moment passed. But I also present an alternative possibility that draws from research on technological development: the ebbs and flows of product hype, while necessary for developing geomedia more generally in the first place, can severely harm possible futures for emerging technologies when the hype fails to materialize. And crucially, the hype of the LBSN moment had ramifications for social geomedia that are still being felt today. Throughout this article, I push back on the echoes of inevitability that often shape media histories and the metaphors of "generations" or pre-determined "hype cycles" that imply a natural evolution. Instead, I use the LBSN moment as an intervention to chart an alternative path social geomedia could have taken, and I use that intervention to argue—maybe quixotically—for the possibility of alternative futures.

LBSNs and the roots of geomedia studies

Geomedia studies arose as a response to major shifts in the media landscape. Namely, more and more platforms incorporated elements of user location in their design (Abend and Harvey, 2017), a process that has now become so widespread that McQuire (2016) argues we are witnessing a paradigmatic shift from "media to geomedia" (p. 1). But the subfield also arose in part because of parallel trends that shaped the disciplines of communication and geography in the mid-2000s. In that general period, parts of communication studies embraced the "spatial turn" that recognized the importance of how space shape communication practices (Jansson and Falkheimer, 2006), and geography went through a "communication" turn that made communication and media studies research more relevant to geography (Adams and Jansson, 2012). Consequently, geomedia studies reflects that blurring of the lines of what counts as geography and what counts as communication (Fast et al., 2018), and in few cases are those lines more blurred than with locative social applications that specifically focus on shifting communication practices through location data.

At the same time as the concept of geomedia was being developed, a related body of research was growing in the subfield of mobile communication studies that was loosely grouped under the umbrella of "locative media studies" (Wilken and Goggin, 2015). This communication-focused research analyzed different forms of what we now understand as geomedia, but arguably the dominant area of early research focused on social geomedia, particularly the LBSNs that are the focus of this article. Communication researchers used analyses of LBSNs to explore how locative sharing can impact physical mobility (Evans and Saker, 2017; Frith, 2013; Humphreys, 2012), the privacy and data capture dynamics of social location-sharing (Barreneche and Wilken, 2015; de Souza e Silva and Frith, 2012), the multilayering of location-based texts as a new form of locative communication (Humphreys and Liao, 2011), practices of memory through social location-sharing (Frith and Kalin, 2016; Özkul and Humphreys, 2015), and the construction of the

identity of both places and individuals through the sharing of location (Schwartz and Halegoua, 2015).

Maybe most importantly for the history told in this article, the growth of communication research focused on LBSNs can arguably, in hindsight, be viewed as an important moment of convergence for geomedia as a subfield. LBSNs were certainly not the only locative media form that became a major focus in geography and communication studies, but they were a prominent example during the crucial period in the history of geomedia that followed the beginning of the smartphone era. Arguably, more explicitly than digital mapping platforms or smart city geomedia (Abend and Harvey, 2017; McQuire, 2016), LBSNs represented a highly visible merging of geography and communication that was recognized across multiple research communities. Consequently, I argue that the LBSN moment was a crucial period in the development of geomedia studies both because these applications received widespread public hype (explored below) and because they became a shared object of study that helped solidify geomedia studies as relevant across multiple disciplinary traditions, even if that solidification is mainly visible in hindsight.

The blurring of the lines between communication and geography research has been key to the development of geomedia studies, which Fast et al. (2018) argue "grows out of a 'messy' encounter between disciplines" and needs to be "a brave and innovative meeting place between disciplines" (p. 15). This article embraces that messiness with the goal to both preserve and rethink a crucial moment in geomedia's history—what I call the "LBSN moment"—and intervene in the present to chart moments of juncture and divergence. After all, back in 2010, Thielman wrote about how the current state of geomedia social applications "emphasized collecting, trading, and meeting" and then asked "Does this indicate a social trend in mobile entertainment?" (p. 3). It turned out that moment passed, and those elements were swallowed into larger platforms as more and more pieces of data for the giants of the social media landscape. In the following, the article examines a moment where a different path could have been taken and argues that geomedia histories can do more than preserve the collective memory of geomedia development; they can also identify moments in which futures were shaped and argue for alternative futures through what the next section describes as a "history of the present" (Foucault, 1977: 31).

Media genealogy

To analyze the LBSN moment, this article uses a specific type of methodological approach called *media genealogy* (Monea and Packer, 2016). Genealogy as methodology was first explored in Nietzsche's *Genealogy of morals* and then further developed in the influential middle and later works of Foucault (1977). A genealogical approach is historical, but it differs from some historiographic and archeological approaches because, as Foucault (1977) argued, a genealogy is a "history of the present" (p. 31). In contrast to historical and archeological approaches that explicitly try not to read history through a presentist lens, genealogy as a methodology uses histories of specific moments to cast light upon our present moment. Consequentially, genealogies are not necessarily focused on fully comprehensive histories of objects of study (Garland, 2014), and they are often explicitly interventionist and explore different paths that could have been taken.

Genealogy as methodology is typically applied to study the emergence of philosophical and broad social beliefs and behaviors (Prado, 2018). Obviously, I am not doing that here in an examination of how social geomedia arrived at its current state. Instead, I am adapting a methodological approach called media genealogy, which embraces the goal of using histories of media forms to examine present media formations. As Monea and Packer (2016) describe, media genealogies are explicitly concerned with problematizing the present and examining power dynamics that contributed to "a stabilized (socio)technical apparatus" (p. 3145). And maybe the most important distinction between media genealogy and approaches like media archeology is that genealogical work is explicitly interventionist. It embraces the "history of the present" to argue for alternative routes that could have been—and still could be—taken in the development of media forms.

Media genealogies also differ from some more traditional media histories because the "analysis must always be in some sense iterative and limited" (Monea and Packer, 2016: 3154). Just as with Foucault's genealogies, they do not attempt to provide a comprehensive history of an object of study; rather they examine specific historical moments to understand the present moment, as Zeffiro's (2012) work has already done for geomedia in her genealogy of formative moments for locative media art. Consequently, this article does not trace a comprehensive history of all forms of social location-sharing; doing so would far exceed the word constraints of this article and be less useful in a genealogical sense for the "history of the present" of social geomedia. Instead, as Apprich and Bachmann (2017) argue, "media genealogy looks for past divergent lines and hidden relationships that point towards the present in critical ways; this includes the dead ends lost to the present" (p. 295). The next section examines one of those "dead ends lost to the present," both to preserve a crucial moment in the history of geomedia and intervene in the present moment, a moment that has seen much of social location-sharing either swallowed up by huge social platforms or used primarily to streamline the provision of goods and services.

The LBSN moment

The defining feature of LBSNs was the ability to check-in and share location with other people. In conversation with the four elements of geomedia McQuire (2016: 1) described, these applications could be used anywhere someone had a mobile and GPS connection (1. ubiquity), they actively updated users' location and their friend maps (2. location awareness and 3. real-time feedback), and they represented the merging of digital mapping technologies and emerging social media platforms (4. convergence). Like all "new" media forms, however, LBSNs did not arise out of nowhere (see Frith, 2015 for a more detailed history of LBSN antecedents). They had roots in services like Dodgeball that used text messages to share location and popularized the term "check in" (Humphreys, 2007), location-based mobile games that required people to share location with others (Licoppe and Inada, 2006), and locative media art that explored the social aspects of emerging locative technologies (see Zeffiro, 2012, for a detailed genealogy of locative media art).

The antecedents mentioned above all began developing before the widespread adoption of smartphones. Without exaggeration, smartphones inextricably changed the

landscape of geomedia (Wilken and Goggin, 2015). They featured advanced locative capabilities (e.g. GPS and Wifi triangulation) and mobile Internet to deliver digital information based on physical location. Smartphones existed throughout the 2000s (and arguably earlier), but the release of the initial iPhone in 2007 fully ushered in the smartphone era.

Another important development then came 1 year later when Apple and Google released their app stores (Goggin, 2010). Within a few months of the creation of the app stores, there were at least six fairly prominent LBSN applications available—Loopt, Latitude, Whrrl, Brightkite, Foursquare, and Gowalla (Evans and Saker, 2017). These applications differed in some ways, but they all focused on the social sharing of location information. They often included game elements partially based on earlier location-based games (Frith, 2013), locative annotations partially based on earlier locative media art (Humphreys and Liao, 2011), and variations of the types of location-sharing explored through Dodgeball's mass texting service (Humphreys, 2012). They also combined those features with some of the hallmarks of social media that had developed by that point (boyd & Ellison, 2008), including symmetrical friend lists of people with whom to share their location.

While an account of every single one of these LBSNs is outside the scope of the article, I want to provide some detail on a few LBSNs to situate this moment in the history of geomedia. The first is Loopt, which was one of the first startups to receive funding from the famous Y Combinator startup accelerator. Loopt was initially developed before the app stores were created, and it quickly got the attention of major corporate players. The company was featured in a series of Boost Mobile (a smaller mobile telecom) commercials with the tagline "Where you at?" that highlighted mapping and GPS capabilities (ebrooks714, 2006). Loopt then expanded to Sprint in 2007 and in early 2008 struck a deal with CBS to deliver location-based advertising. Loopt was then featured at Apple's June 2008 Worldwide Developer's Conference where their CEO explained that "We [Loopt] show you where people are, what they're doing, and what cool places are around" (Tweney, 2008). Loopt was even the focus of one of the very first iPhone 3G commercials, which used Loopt to highlight the locative media capabilities of the iPhone 3G (Siri Pod, 2008). Between 2008 and 2012, Loopt raised US$39 million in startup funding, and at one point, seemed like a frontrunner in the LBSN race and a prominent face of early mobile applications.

Loopt was an example of the startup model that was typical of LBSNs in this period. However, not all LBSNs were startups. Another hyped LBSN—Latitude—was released by Google in February 2009. Google's investment in Latitude was a significant move for LBSNs and gave the media form added legitimacy in some circles of the tech press (Kerton, 2009). The Google name also helped get Latitude attention and attracted a larger initial user base than competitors like Whrrl and Brightkite. However, like with other Google ventures into social media during this period (remember Google Buzz?), Latitude's rollout was not particularly successful. The app used a different model than other LBSNs that involved the real-time broadcasting of people's movements rather than check-ins, and in the first week it was released, *Wired* published an article that started with the sentence "Looking for an easy way to stalk your friends? Google has the answer" (Gilbertson, 2009: n.p.). The word "stalk" was then used in multiple articles about

Latitude within a short period, and politicians almost immediately began criticizing Latitude for raising major privacy concerns (B. Ray, 2009). Despite Google's backing, Latitude struggled to gain widespread traction.

Loopt received initial hype and funding and Latitude was backed by Google, but they were both quickly eclipsed in the public attention by the LBSNs Foursquare and Gowalla. Foursquare, which was co-created by Dodgeball cofounder Dennis Crowley, and Gowalla were released at the 2009 South by Southwest (SxSW) festival on the exact same day (Williams, 2013), and both received attention from the tech press. Foursquare, in particular, was labeled "the breakout mobile app at SxSW" (Van Grove, 2009). Both apps then raised significant venture capital money after their successful SxSW debuts (Williams, 2013). These rounds of post-2009 funding helped usher in what became known as the "check-in wars."

The "check-in wars" were an important moment of public attention for early geomedia development. For example, multiple articles in the tech press discussed the "check-in wars" and the battle for supremacy between multiple LBSNs (though most often Gowalla and Foursquare) (Pollack, 2010; Snow, 2010). The supposed "check-in wars" helped contribute to the hype surrounding LBSNs and was a major moment of juncture to analyze, in media genealogy terms, "the clashes of power that resulted as multiple technologies were (counter)posed as potential solutions within a problematic field" (Monea and Packer, 2016: 3145). And those "clashes of power" during the LBSN moment were never more visible than in the leadup to the 2010 SxSW festival, which was arguably the peak of LBSN hype and, in hindsight, a moment that played a role in shaping the present state of social geomedia.

By 2010's SxSW Gowalla and Foursquare had, at least according to commentators and venture capital, established themselves as the two leading LBSNs and were two of the rising stars in the tech world. And the hype about battles and wars between two prominent mobile startups only became more pronounced in the days leading up to SxSW. *Tech Crunch* ran a headline claiming that "Foursquare and Gowalla line up for a SxSW brawl" (Siegler, 2010). Even CNN embraced the narrative with a headline claiming that "SXSW a battleground for mobile 'location war'" (Gross, 2010). The two startups also embraced the narrative of battle: As Gowalla's CEO later said, "The Check-in Wars had begun and everybody knew it. The tech world wanted it some drama. We were happy to oblige" (Williams, 2013: n.p.). And they did oblige in sometimes highly public ways. For example, Gowalla and Foursquare scheduled competing SxSW parties, a move that received attention and resulted in the wide circulation of a flyer about the parties that focused on the "Geosocial showdown" as a boxing match between the two startups (see Image 1).

That flyer was then picked up by sources like *Business Insider* in their coverage about the check-in wars (Yarow, 2010), and it remains an important artifact in the early development of social geomedia and a synecdoche for the "check-in wars" as a whole. For this brief moment, LBSNs were one of the major talks of the tech world, and in retrospect, this moment of hype is an important moment in the early popularization of social geomedia features on mobile applications.

The winner of 2010's SxSW LBSN battle, as Gowalla's CEO put it, would be measured by the number of check-ins. Foursquare solidly outperformed Gowalla, despite the

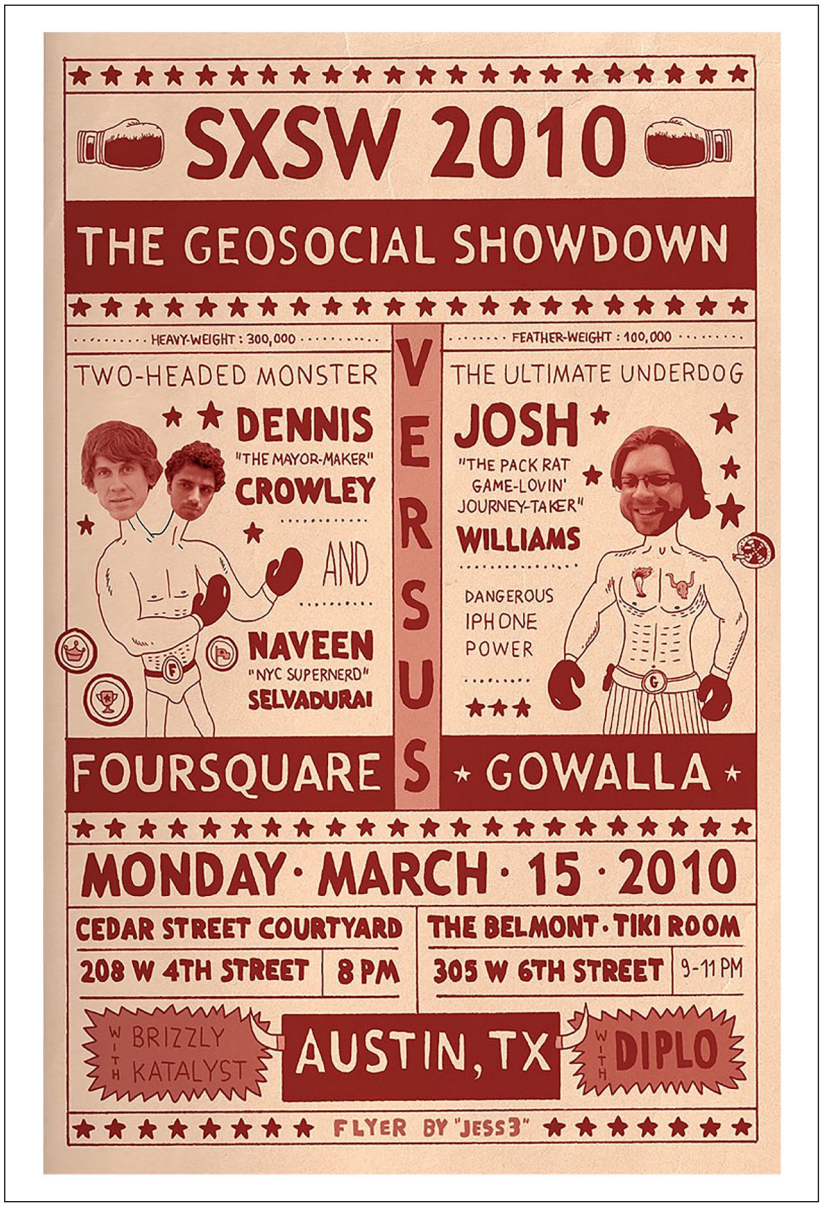

Image 1. A 2010 SxSW poster about the "geosocial showdown" that portrays Foursquare and Gowalla as boxers (Image published with permission of Jesse Thompson. Copyright, Jesse Thompson).

fact that Gowalla beat Foursquare for the "top mobile app" award at the festival (Calore, 2010). Gowalla was often discussed as the better designed app (Schonfeld, 2011), but Gowalla's CEO argued that it lost out to Foursquare for two main reasons: (1) Foursquare

had an experienced and popular CEO who had experience launching mobile services, and (2) Foursquare was located in New York and built a large, dense userbase, whereas Gowalla was in Austin, which was outside the startup ecosphere mostly centered around Silicon Valley and New York City (Williams, 2013). Consequently, Foursquare left SxSW as the winner of the supposed check-in wars, which venture capital firms quickly made clear. Less than a week after 2010's SxSW festival ended, *Business Insider* ran a story proclaiming that "VCs rush forward with cash, declaring 'Foursquare crushed Gowalla'" (Yarow, 2010).

Foursquare then continued to grow from there. It hit 1 million users in less time than Twitter, hit 10 million users by 2011, and 20 million users by 2012. In 2013, the app raised a round of major funding that valued the company at US$600 million. And unlike all the other LBSNs mentioned above, Foursquare still exists and is arguably more successful than ever (Wilken, 2019). But despite Foursquare's victory in the check-in wars and continued growth in the first half of the 2010s, social geomedia still had major shifts coming.

The fall of LBSNs

Between 2008 and 2012, various LSBNS struck corporate partnerships, raised tens of millions of US$ in venture capital, and received attention in popular tech sources. For a relatively short period, it seemed like mobile applications built primarily on social location-sharing would be a major player in the social media landscape. Articles, for example, had begun speculating that Foursquare might be the "next Twitter" (Cashmore, 2009; Grove, 2009). And even after the tech press—and more importantly (though relatedly) venture capital firms—declared Foursquare the winner of the "check-in wars" in Spring 2010 (Snow, 2010; Yarow, 2010), the market for LBSNs remained fairly crowded. However, the hype did not last very long. Between 2011 and 2013,

- Groupon purchased Whrrl and shut it down (2011)
- Brightkite shut down (2012)
- Loopt was acquired by Greendot and shut down (2012)
- Google permanently shut down Latitude (2013)
- Gowalla was purchased by Facebook and shut down (2011).

By 2014, Foursquare was the only one of the original LBSNs still standing, and its user base had grown to 50 million registered users (Wilken, 2019). However, Foursquare's success counterintuitively became maybe the final nail in the coffin for LBSNs as a major form of geomedia. In 2014, Foursquare removed the check-in and location-based gaming functions and put them in a separate app called Swarm. The Foursquare app focused instead on search and place recommendations (Wilken, 2019), with Crowley claiming that Foursquare's goal was to be the "location layer of the Internet" (Olanoff, 2013). And Foursquare is still thriving more than 10 years after its launch and has continued to raise money and expand its location data API (Wilken, 2019). Foursquare was the last remnant of what I labeled the "LBSN moment," and I argue the moment ended when Foursquare deemphasized check-ins at the expense of spatial search.

What came next

The LBSN moment shined bright but faded fairly quickly. After that brief period of hype (both from the tech press and venture capitalists), applications focused specifically on social location-sharing with an established social network mostly disappeared from the mobile landscape. The one exception was Swarm, but even that was positioned by Foursquare as secondary to the ultimate goals of the platform (Wilken, 2019). Social location-sharing, as a feature, however, did not disappear. Instead, location-sharing was folded into large platforms as one feature among many or adapted by apps primarily to link people to goods and services (Agur and Babones, 2021; Wilken, 2018). Facebook, for example, incorporated "check-ins" and has increasingly focused on the collection and use of location data (Barreneche and Wilken, 2015; Wilken, 2014, 2019) Google began providing users with a "timeline" that showed them logs their mobility for memory purposes, which research showed was often a primary reason people used LBSNs (Özkul and Humphreys, 2015). Apple made a "find my friends" app a default in their iOS to map people's location, though it uses an approach more like Latitude than the check-ins popularized by Foursquare and Gowalla. Snapchat added a mapping filter, though it is not prominently featured on their app. Most of the platforms listed above adopted location-sharing as one feature among many, with check-ins typically offered as an "add-on" to the more typical textual or image-based content.

Other services did build platforms centered on location-sharing, but they did so for different purposes than LBSNs. As Agur and Babones (2021) argue, one of the most prominent economic shifts of the last decade has been the rise of platforms that use location data to "dramatically restructure economic and social life" (p. 1). Two of the most prominent examples are ride-hailing platforms like Uber and Lyft and lodging platforms like AirBNB. These platforms use people's location to match them to others nearby who are offering a specific service. In other words, they have used the location-sharing abilities that gained significant attention with LBSNs to focus on providing goods and services rather than social connections, and they have significantly disrupted existing industries through their social geomedia features, with arguably negative effects on labor and housing practices (Jansson, 2019).

The question that drove this article was what the LBSN moment can reveal about a "history of the present" of the current social media landscape dominated by either huge social platforms or locative platforms focused on goods and services. One way of understanding the shift from applications focused on broad social uses of geomedia to the current state of social geomedia is through a narrative of technological progress, which is often how technological successes and failures are understood (Geels and Smit, 2000). In those terms, LBSNs were pioneering applications that paved the way forward for the platforms that replaced them. A variation of that view was adopted implicitly in Wilken's (2018) work on the "generations" of location-based services. Wilken (2019) is arguably the foremost scholar on the economics of geomedia and has done invaluable work charting Foursquare's shift from LBSN to large-scale data platform. His work is also important for understanding the move from the LBSN moment to the contemporary social geomedia landscape. To chart that shift, Wilken (2018) categorized location-based services in terms of three generations:

1. First generation: mobile applications that required "the active registering of one's location by end users, often in the form of 'check-ins'" (p. 24). In other words, the LBSNs discussed above.
2. Second generation: mobile applications that "involved 'passive' location disclosure, tracking and compatibility pairing of end users" (p. 25). These applications, such as Highlight and Banjo, passively tracked users' location all the time and linked to other social media accounts to alert people if someone they knew was nearby. This generation never received as much hype and public attention as the LBSNs discussed above.
3. Third generation: the current generation of location-based services, which "are more broadly defined location-based services that involve what I am here referring to as ubiquitous geodata capture. For these services, location remains fundamental to their operation but is integrated at both the front end (the interface) and the back end (algorithmic processing, database population, monetization efforts and so on)" (p. 26). Examples include powerful platforms like Facebook, Google, Uber, and AirBNB.

For as valuable as this categorization is, one of the goals of this interventionist genealogical approach is to push back on metaphors like "generations" that imply a kind of linear progression. The metaphor of generations implies one must follow another, ideally with each new generation building upon the previous generation. But I argue that thinking, while often deployed in tracing media histories (Aghaei et al., 2012), can limit understandings of alternative paths that could have been taken. After all, "generations" of media are only identifiable in hindsight, and as research shows, technological development is rarely linear or inevitable (Geels and Smit, 2000).

Consequently, I argue that returning to the LBSN moment can help push back on implicit and metaphorical narratives of inevitability and provide alternative conceptualizations of the current state of geomedia. Rather than viewing LBSNs as a first-generation stepping-stone for what came later or arguing that they inevitably struggled because social "location is not compelling" and not enough to support a platform (Sample, 2013: 68), I instead argue that the LBSN moment was a moment of forking paths for social geomedia where the media form could have developed differently. And I argue that key to understanding those dynamics is understanding the nature and consequences of technological hype.

The LBSN moment was a period of significant hype for geomedia, especially at 2010's SxSW. Technological hype, however, is a complicated process. Likely the most popular way of understanding "hype" is the Gartner Hype Cycle, which argues technologies go through a moment of massive hype followed by disillusionment followed by (if the technology is lucky) a plateau of productivity. LBSNs, in terms of the Gartner Hype Cycle, never got out of their trough of disillusionment and were instead replaced by the types of social geomedia we see today. However, the Gartner Hype Cycle has been widely criticized in technological development research (Pollock and Williams, 2010). One issue is that the methodology they use is opaque, and the idea of a cycle is deterministic. In addition, Gartner's predictions rarely have consequences when they are wrong. For example, Gartner's official blog[2] published a 2011 story called "What's next: The

gamification of everything" that listed Foursquare and Gowalla as the two primary examples of "what's next" (Burke, 2011). But then in 2016, that same blog referred to the LBSN hype of the early 2010s as "snake oil" (A. Ray, 2016: n.p.).

In contrast to organizations like Gartner that often do more to build hype than understand it (Pollock and Williams, 2010), research on technological development provides a more theoretically developed analysis of successes and struggles that can reframe the LBSN moment through a history of the present. As this research shows, "analysing the dynamics of expectations is a key element in understanding scientific and technological change" (Borup et al., 2006: 286). And importantly, expectations and hype cannot be understood purely through "rational" means like monetization prospects or business plans. Instead, the hype that shapes visions of technological futures is inherently performative, and "hyperbolic expectations of future promise and potential" have only become more pronounced and important in the 21st century (Borup et al., 2006: 287). The LBSN moment was not just a first-generation stepping-stone to the current landscape of social geomedia; instead, it was a moment of performativity that brought public attention to geomedia, and most importantly for the purposes of this article, shaped the way social geomedia developed.

Technological development research shows that hype is a double-edged sword (Geels and Smit, 2000). Emerging technologies need to elicit hype to attract users and funding: "the promise will, almost necessarily, be exaggerated in order to command sufficient interest to enroll necessary allies and secure investment" (Brown, 2000: 6). And the hype of the LBSN moment coincided with the popularization and widespread adoption of smartphones, so the coverage of LBSNs likely shaped some of the social imaginary of the potential of location-based applications more generally. And major figures in the LBSN moment certainly embraced the necessity of possibly inflated expectations. For example, Loopt's CEO pushed for the application to be featured in early iPhone commercials and gave a major presentation at Apple's Developer Conference. The CEOs of Foursquare and Gowalla went even further in embracing the "performativity" of expectations, consciously pushing the narrative of the "check-in wars" and even scheduling competing parties at SxSW. As Gowalla's CEO explained later, Gowalla and Foursquare both embraced the "battle" narrative for increased attention (Williams, 2013).

I am not pointing out anything new by showing that LBSNs were significantly hyped, embraced that hype, but failed to reach the level of what Fast et al. (2019) define as "geomediatization," in which specific geomedia technologies "become increasingly indispensable in all the more social spheres" (p. 91) In fact, Gowalla's CEO explicitly acknowledged that "The growing public attention sparked by the investment became both a heaven and a hell" (Williams, 2013: n.p.). However, I argue that engaging with theories of technological development and hype can point to what could have been different futures for social geomedia. Hype, while often necessary, can also have major costs. After all, hype has a distinctly "temporal patterning" in which the new and novel are presented as a possible future for technological development (Borup et al., 2006). But the history of technology is filled with predictions about futures that never came to be, and "it often seems to be the case that hype tends to entirely overestimate the near or medium term potential of a field whilst completely misunderstanding longer term value altogether" (Brown, 2000: 12).

Most importantly for understanding—in media genealogy terms—the "dead ends lost to the present" (Apprich and Bachman, 2017: 293), hype shapes development and sets technologies on certain paths. After all, while hype may often be necessary in the early days of a new media form, hype can also limit further development if the imagined potential does not surface quickly enough. In other words, when an emerging (geo) media form receives widespread attention but does not take off quickly enough, "The costs of failure arising from overheated expectations and inflexible objectives have to be borne by someone, ultimately damaging reputations and trust" (Brown, 2000: 6) And the cycle can then be exacerbated when initial hype begins to recede (e.g. 2011–2013 in the LBSN moment) and, "As doubts increase, so too does the requirement to reinforce more positive futures. Until suddenly, the effort to maintain expectations becomes too high leading to an abrupt collapse and a new round of scapegoating and victim blaming" (Brown, 2000: 6).

The LBSN moment was first defined by its hype and then an abrupt collapse and scapegoating. The attention paid to the potential of location-sharing passed quickly post-check-in wars, and most importantly, venture capitalist funding fled from most LBSNs, which were then left to engage in "struggles with unequal access to the resources with which futures are manufactured" (Brown, 2000: 13) as location-sharing features were either incorporated into already massive platforms or sold through platforms focused on labor and housing.

Of course, there are multiple possible explanations for why the LBSN moment faded so quickly. One is simply that social location-sharing and a few gaming elements are just not interesting enough to get people to use a platform. Maybe, as Sample (2013) argued, location in itself is not interesting enough a piece of social data. Another explanation is that LBSNs were just a stepping-stone "first generation" of social geomedia that were likely always going to be replaced as large companies and venture capital pushed social location data in different directions (Wilken, 2018). There is likely significant truth in both those views. But the interventionist goal of this article has been to make a case that the direction social geomedia took was far from inevitable. Rather, specific elements of the LBSN moment contributed to the present landscape, namely, the significant hype that raised expectations too high and had lasting consequences that are still felt today.

The failure of some LBSNs was not surprising. Most startups fail, and by 2010 the market was crowded with competitors struggling for a limited number of users and a limited venture capital pool. But to understand how influential the failure of LBSNs was to the shaping of contemporary geomedia, the consequences of hype must be taken into account. Less than 2 years after the bright lights of 2010's SxSW, only one prominent LBSN remained. And then 2 years after that, Foursquare had to make a major public shift to shutter check-ins to a separate application to explicitly show investors they were more than a check-in application (Wilken, 2019). And since Foursquare deemphasized check-ins, there have been no prominent attempts to release another LBSN that focuses primarily on social location-sharing through social networks, likely because venture capitalists were scared off by the hype of the LBSN moment followed by the precipitous decline. Following Brown (2000) and Borup et al. (2006), LBSNs became a scapegoat for the unrealistic expectations of the early days of the mobile app economy. Individually, it is not surprising when an app is not sustainable. But in retrospect, it is somewhat surprising

that the disappointment surrounding LBSNs was so severe that there have been almost no attempts in the past 7 years to even try to revive a media form that, at one point, raised tens of millions of US$ in funding and attracted millions of users.

Consequently, I argue that returning to the LBSN moment through the lens of the present suggests that the LBSN moment was a critical period of juncture for the development of social geomedia. For example, if LBSNs had received less hype and not been featured in early iPhone commercials and then framed as the darlings of SxSW, the expectations for quick user growth and monetization may have been more tempered and enabled the media form to mature. Or if Gowalla had won the "check-in war" in 2010, their CEO may not have made the decision Foursquare made to deemphasize check-ins. My point here is not to lay out every possible future because counter-factuals can never be more than educated guesses. However, what I hope to have accomplished is an interventionist reading of the LBSN moment that both positions this period as a crucial moment of geomedia history and pushes back against the inevitability of social geomedia development.

In particular, I argue that the significant hype of the geomedia moment had consequences for the development of social geomedia that are still felt today. The current geomedia landscape, if certain aspects had been different and if some of the hype had been less pronounced, *could* still feature social platforms that market themselves primarily through social location-sharing. Instead, social location-sharing primarily became another plank in the data empires of massive platforms or a way services like ride-hailing and lodging platforms match people to labor and lodging (Wilken, 2019). Social geomedia certainly has not died, but it has become something else, and the dynamics of hype in the LBSN moment can show that "something else" was never inevitable.

In addition, I want to conclude here by arguing for more interventionist genealogies of geomedia and more examinations of moments of juncture at which certain paths of future development were shaped and certain paths closed. And I want to point out that, just as the future was not set in 2010, the future of social geomedia is not set now. The near and midterm future of social geomedia will likely continue to focus on location-sharing as one less prominent feature among many on large social platforms or as a data point used to link people to services. But that future is not inevitable. If, as I have argued here, part of the turning away from LBSNs and social platforms built primarily on location-sharing was the result of hyperbolic hype followed by disappointment, then at some point that disappointment could pass. In 2021, for example, Gowalla announced it had raised a modest amount of funding and was relaunching their platform in the near future. That relaunch might fail; it might succeed. But regardless, it possibly suggests that we could be far enough past the hype and disappointment of the LBSN moment to begin thinking through alternative futures for social geomedia.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Notes

1. The acronym here can be slightly confusing. Some sources refer to these applications as location-based mobile social networks (LMSNs), and others use location-based social networks (LBSNs).
2. The actual hype cycle reports cost as much as US$30,000.

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