

Zero Feet Away: Technology, Sex, Love, and the Image of the City

Location-based technologies that facilitate social, romantic, and sexual encounters are reconfiguring how certain demographic groups map and otherwise visualize their communities. The extent to which the new modes of communication and navigation emerging from these technologies signal a broader transformation of the public realm is an open question. As GPS-enabled apps such as Grindr and Tinder regulate social rhythms and visualization strategies within pockets of contemporary culture, they may also foretell a future in which decentralized and desire-oriented mapping practices undermine long-standing paradigms of cartography.

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THE PLACE OF SPACE

Chorology is the study of overlapping phenomena that occur within a limited geographic region. Rooted in the discipline of cultural geography, it derives from Plato's notion of *chôra* as a "third kind" of reality, one that is neither intelligible nor sensible, neither being nor becoming.¹ Chorological research confronts the layers of place embedded within space and analyzes ambiguities between cause and effect. Chorological mapping practices, likewise, strive to represent the dissonance between objective space and the underlying forces that regulate it. While all maps are subjective, some are more explicitly chorological than others, and new technologies, such as GIS (Global Information Systems), promise to heighten the ability of geographers and others to create visualizations that complicate, in productive ways, relationships between place and space. Location-based meeting apps are especially significant in this regard, as they are cartographic tools operated not by researchers external to a community, but rather by members within a community. Users of such apps employ methods of visualization specifically devised to interpret ever-shifting data sets of which they are apart, and millions of smartphones and tablets have become lenses that frame (and perpetually reframe) parameters of place and space with unprecedented fluidity and interactivity.

The following is a case study of Grindr, an app that serves communities of gay and bisexual men. The objective is to analyze an instance of an increasingly common phenomenon in the contemporary city—the displacement of social structures from physical spaces through the democratization of previously rarified technologies.

The popularity and cultural relevance of Grindr renders its use in large cities an especially vital example of technology-inspired chorology in the early digital age, and its significance likely extends beyond the community that it serves. The current moment provides a rare opportunity to study a technologically motivated paradigm shift in the nature of public space in its infancy. The ways in which Grindr differs both from physical meeting places, such as bars and cafes, and from web-based meeting platforms, such as Adam4Adam and Craigslist, raise issues of identity, privacy, and spatial cognition that have broad implications.²

ANATOMY OF A CHOROLOGICAL MAPPING DEVICE

Grindr (version 2.0.7) translates the physical environments occupied by its users into fields of relative data regulated by multiple variables. Its power lies in the ways in which it balances the disclosure and concealment of users' personal information, as well as the freedom and restraint of users' movements within its interface. The app accommodates a wide range of preferences regarding privacy and the engagement of its interactive features, and it contains a series of complementary tiers through which users navigate in prescriptive but not overly determined ways.

The *primary tier* of Grindr consists of a grid of profiles belonging to members either currently or recently online and in close proximity to a user. Each profile contains either a member-provided image or a generic Grindr icon. A small green circle appears in the lower-left corner of profiles belonging to members currently online, as profiles of members recently online (but currently idle) remain visible on the grid for up to an hour. Profiles on the primary tier may include up to 16 characters of text, which may be modified or erased by a member at any time.

A user's profile always occupies the upper-left square of the grid on the primary tier and is (redundantly) highlighted with a yellow outline. The ordering of the other profiles on the grid proceeds from left to right and from top to bottom according to increasing distance from a user's current location. For example, the profile immediately to the right of a user's profile belongs to the visible member who is currently closest to him, and the profile on the bottom-right square of the grid belongs to the visible member who is currently furthest away from him. The number of profiles visible on the primary tier grid is limited to either 100 or 300 (depending on whether a user installs the free or premium version of the app), and the distance range of visible profiles (or the *scale* of the grid) varies according to the current density of online members in the area. The *size* of the grid, meanwhile, extends beyond the limits of smartphone and tablet screens, so a user must scroll through the grid in order to view all of the available profiles.

A user accesses the *profile tier* of the app, which includes members' full profiles, by touching a profile on the grid. A full profile includes a full-resolution image (if provided) and several potential text fields (all which a member may leave blank). Textual information may include: a profile headline (the only text visible on the primary tier); an additional personal message; demographic data (age, ethnicity, body statistics, et cetera); reasons for using the app (dates, relationship, friends, networking, "right now," et cetera); links to social media sites; and the distance of a member relative to the location of a user (e.g., "2345 feet away" or "1.2 miles away"). Members who prevent the app from disclosing their relative location to other members nonetheless appear in profile grids in a position that reflects that distance.

Full profiles also include four navigation buttons that allow a user to initiate a one-on-one chat with a member, to denote the member as a *favorite*, to *flag* the

member as abusive, and to *block* the member from further interaction. The block feature erases all messages exchanged between the blocker and the blockee, both of whom are thereafter unable to view or access the other's profile in any way. Users of the premium version of the app may swipe through multiple profiles on the profile tier, in the order in which they would appear on the profile grid, but users of the free version must return to the primary tier in order to access other full profiles.

The *interactive tier*, where one-on-one chats occur, includes a text field in which users type and send messages, buttons that allow users to send photos or their exact locations on conventional maps with identifying pins, and a full record of previous messages exchanged between the two participants in the chat, regardless of the elapsed time since the most recent message exchange. Users (premium or otherwise) who enter the interactive tier through the profile tier may not move between one-on-one chats with different members without (somewhat tediously) returning to the primary tier through the profile tier and then re-entering through a different full profile. There is, however, another option that demonstrates the multiple rhythms of movement that may occur within the app.

The primary tier includes navigation buttons that lead a user to additional tiers, one of which, the *chat tier*, allows users to navigate between one-on-one chats more easily. The chat tier consists of a column of already-initiated one-on-one chats between a user and other members. The column is divided into equally spaced rows, each of which contains a thumbnail of a chat participant's profile image (if provided), up to three of the most recent lines of a chat, and a record of the elapsed time since the most recent message exchange. The ordering of rows corresponds to elapsed time (most recent at the top) and disregards relative location. A user may touch either the text portion of a row, which leads him through a "side entrance" into the interactive tier, or the image portion of a row, which leads him through a "side entrance" into the profile tier.

The *favorites tier* consists of a grid of profiles belonging to members designated as favorites by a user. This grid looks and acts like the primary tier grid, and a highlighted icon at the top of the screen is the only indication that it, as opposed to the primary tier, is active. This tier, however, is scaled differently, as it may include profiles belonging to members who fall outside of the distance range available on the primary tier grid. The *filters tier* allows a user to narrow the demographic statistics of the members whose profiles appear on the primary tier grid, though most options are limited to the premium version of the app. Variables include age, ethnicity, height, weight, relationship status, body type, and reasons for using the app. Like the favorites tier, the filters tier modifies the distance range of profiles visible to a user and thereby affects the scale of the profile grid. Unlike the favorites tier, the filters tier does not contain a separate profile grid. Instead, it alters the organizational logic of the grid on the primary tier. Again, a highlighted icon at the top of the screen is the only indication that the filters are active.

Once a user either initiates a chat or is engaged in a chat by another member, that member's profile is highlighted with a blue outline on all profile grids until the end of the calendar day (regardless of whether either the user or the other member reciprocated the initial contact).

All tiers on Grindr are active fields of data that change constantly according to the movement and online status of users, which vary considerably. The app updates

profile grids and online status indicators automatically every few minutes, and a user may force additional updates at anytime through a simple touchscreen operation.

The final component of the app is its *service tier*, which consists of a profile editor, an account settings editor, and a support interface. The account setting editor is a relatively new feature that was added only after Grindr began to require accounts to be linked to an email address. Inspired by an attempt to prevent spammers from interfering with members, the requirement of an account led to a small backlash among members who sought to use the app anonymously.³ Those fears, however, were unfounded, both because anonymous email accounts are easy to procure and because, as explained below, the use of apps on smartphones is antithetical to anonymity regardless of whether or not an account is required.

IDENTITY AND ANONYMITY

A curious feature of most location-based meeting apps, including Grindr, is the lack of unique user names. Whereas John Smith may need to adopt “Johnsmith_99o5eu75” or something similarly arcane for his email address or his Adam4Adam profile name, he (and every other John Smith) may adopt simply “John” as his Grindr profile name. Furthermore, he can change his profile name as many times and in whatever ways he wishes, none of which compromise the unique identity of his account. Grindr links its members’ accounts to the IP addresses of their devices, not to user names. Grindr accommodates the syncing of an account across multiple devices, but it prevents multiple accounts from occupying a single device. A user who attempts to delete an account from a device is warned that a new account may not be activated on that device for at least five days. These policies are clear attempts to regulate abusive and/or subversive uses of technology that arise from anonymity and a lack of restrictions on account creation and recreation. Ironically, while the fluidness and potential replication of profile names in the app may seem to promote anonymous uses (and abuses) of it, these features are by-products of a relatively stringent form of identity tracking and control. The fact that apps operate on smartphones heightens the extent to which Grindr is able to track and regulate misuses of its technology, as flip-phones are far easier (and cheaper) to procure from mobile phone providers in an anonymous manner. Even the free version of the app is available only through an app store, such as iTunes, which is only a quasi-private space that requires the registration of a credit card and, for most smartphone users, implies open and socially proper participation in wireless-based communities.⁴

A consequence of Grindr’s affiliation with app stores is its regulation of adult content (i.e., illicit pictures). Grindr, like Adam4Adam, is an adult platform that, according to Federal regulatory standards for the Internet, requires users to state that they are at least 18 years of age; however, such gateways operate on the honor system and are therefore unverifiable and unreliable.⁵ Apps, however, are subject to a far more powerful regulatory body: Apple, Inc. The iTunes app store does not distribute apps that it considers, “over the line.”⁶ Apple’s position creates an arbitrary double standard for mobile devices and home computers, presumably because mobile devices infiltrate the public realm more readily (or perhaps more insidiously) than laptops. Grindr, in compliance, prohibits its members from both posting and exchanging illicit photos in all tiers of its interface.⁷ The result is an interface that, despite the presence of bare torsos, is far more chaste than that of Adam4Adam, which allows members to use an illicit photo as a primary profile image.⁸ That the adult-content limitations on apps are culturally imposed, as opposed to technologically defined or government mandated, raises

policy questions regarding how and why to regulate so-called adult content (a subject for another paper).

The relatively proper channels through which users acquire and use Grindr affect how the app operates as a chorological mapping tool. Whereas one may assume that “a location-based meeting platform” is an unconvincing euphemism for the ultimate facilitator of random sexual encounters, Grindr is in many ways a more conventionally proper and less anonymous social platform than Adam4Adam or Craigslist. It is closer, in this sense, to a physical environment than to a web-based one. Members must present themselves in ways that are, if not always conservative, at least publically acceptable, and the linking of member accounts to expensive devices, as opposed to easily transferable and deletable user names, seems to further render location-based apps less illicit than websites. Analyses of profile grids on Grindr and Adam4Adam, in fact, indicate that members of the app are more likely than members of the website to reveal their faces in their profiles and to indicate non-sexual intentions for their use of the platform through the posting of phrases such as “no hook-ups.”⁹ At the same time, the use of non-biological images (e.g., sunsets and skylines) is far more common on Grindr than on Adam4Adam. Images of landscapes and architecture seem to operate as fetish objects, or surrogates for images of body parts that are not allowable on the app.

A MATTER OF RELATIVITY

The extent to which the emergence of websites like Adam4Adam and Craigslist transformed romance and sex is a matter of history.¹⁰ Online dating environments alter the ways in which partners scrutinize each other and lead to matches that (for better or worse) may not have otherwise occurred, as well as to disclosures of information (such as pictures and sexual inclinations) more amenable to data transfer than to conversation. The influence of such websites on the evolution of cartographic practices, however, is less compelling. While most provide geographic filters relating to neighborhood and other typologies of spatial organization, the data provided by users are unreliable, as stated geographic locations do not necessarily correspond to actual ones. Unlike a GPS-enabled app, there is no verification of a user’s general, let alone relative or absolute, location. More subtly (and perhaps more significantly), the grid of profiles on Adam4Adam and the list of postings on Craigslist, for example, are organized according to a temporal parameter, not a spatial one. Members at the top of the grid in Adam4Adam have logged on more recently than members at the bottom of the grid, and postings at the top of a list on Craigslist are more recent than ones on the bottom of a list. On Adam4Adam, a common trick employed by users is to logoff and immediately logon, often repeatedly, so that their profiles continuously reappear at the top of the grid. As a result, the profile grid is more an expression of member temperament than of the spatiotemporal logic of a community. The location-based technology of Grindr reduces the ability of users to manipulate the system and, in a sense, objectifies the information communicated through its platform. Member profiles are indexes in that they are verifiable traces of physical phenomena.

Objectivity alone, however, is not the key to Grindr’s effectiveness as a tool of chorological mapping. In fact, the significance of the app to cartography derives not from its ability to disclose raw data, but rather from the enigmatic ways in which it balances the disclosure and concealment of different types of data. Grindr simultaneously reveals far more and far less than other modes of mapping and visualization. On the one hand, it collects and distributes locational

information for all of its users. On the other hand, it channels that data into digit-based relative distance indicators, not graphic representations of absolute locations, which are common in other location-based apps, such as Google Maps, Citibike, and Fandango. Although a Grindr user may send a graphic map of his location to another member on the interactive tier of the app, that action is only slightly more technologically advanced than sending an address through email or a web-based platform. The use of relative, as opposed to absolute, systems in location-based meeting apps is common and likely an attempt to ameliorate concerns over potential social abuses of the technology, such as stalking and domestic violence, as opposed to an attempt to revolutionize community self-mapping practices.¹¹ Regardless, the consequences of Grindr's digit system are profound and worthy of analysis.

The default absence of graphic maps in Grindr raises questions concerning the extent to which mental images of physical environments correspond to (and may diverge from) conventional parameters of visualization. Users of the app interpret familiar physical environments through abstract lenses of data and atypical standards of measurement. City dwellers in particular rarely discern the dimensions of their environments (either the distance between two sites "as the crow flies" or the actual travel distance between them) in units of feet and miles. In New York City, for example, the primary unit of distance is the block, and Grindr renders it irrelevant. More generally, Grindr reduces space to a homogenous expanded field, as numerical data points suppress users' knowledge of the inherent spatial heterogeneities within their environments. In order to visualize his app-defined community, a Grindr user must negotiate between what he knows and what the app reveals to him, and the built-in variables of the app are especially complex (and potentially significant) in large cities.

The density of online members in close proximity to a user is a primary variable that affects the app's use as a mapping tool. This density determines the distance range of the profiles visible on the primary tier grid at any given time. For example, on a weekend night in a large city, a user may be able to view members only within a few hundred feet of his location. By contrast, on a weekday morning, he may be able to view members within a couple of miles of the same location. In other locations in the city or in the suburbs, distance ranges may be lesser or greater according to varying densities of online members. The rhythms of temporal variation may also differ according to location (i.e., peak usage may occur at different times in different places). Because the technology is mobile, a user likely confronts a multitude of conditions throughout the course of a day or week. The scale of the primary tier grid, therefore, varies dramatically, but none of the scalar differences are explicitly visible to a user on the primary tier of the app, as relative locations are visible only on the profile tier. Scale, in other words, is both a dominant and an elusive factor.

A user, however, may still interpret the scale of a profile grid, as well as other geographic qualities of it, through an identification of "anchor profiles." Over time, a user may recognize profiles that commonly appear in his grids when he uses the app from a regular location, such as his home or office. In some cases, he may have chatted with or met certain members, which allows him to map their exact locations. In other cases, he may simply know the relative locations of certain members with respect to his location. All of this data provide a structure, or scaffold, on which to build a mental image of the spatial community of members at any given time. Anchor profiles act as landmarks within the grid—points of reference

ENDNOTES

1. See Plato's *Timaeus*.

2. Heterosexually-oriented versions so far lack the relevance of Grindr. Whereas mainstream media outlets regularly cover Grindr's influence on various matters that affect the contemporary city, from public health to racial and ethnic sensitivity (see: http://www.slate.com/articles/technology/future_tense/2013/05/a_deadly_meningitis_outbreak_is_targeting_the_gay_community_are_hookup_apps.html; and <http://www.dailymail.co.uk/news/article-2271061/Outrage-Grindr-users-post-revealing-pictures-Berlin-Holocaust-memorial.html>), coverage on heterosexual dating platforms mostly addresses their relative lack of traction (see: www.salon.com/2011/09/14/blendr/). References on popular television follow a similar pattern: whereas Grindr has been satirized by the influential *The Daily Show* with Jon Stewart in the context of the 2013 government shutdown (episode # 19007, 10.09.13), *Tinder* is relegated to a quick reference on the less far-reaching *The Mindy Project* (season 2, episode 12, 01.07.14), though the title character on the show also has an actual (albeit satirical) *Tinder* profile.
3. See, <http://www.theverge.com/2013/7/26/4560338/hey-sexy-overrun-by-spambots-gay-hookup-app-grindr-to-end-anonymity>.
4. Whereas Grindr encourages its members to post Facebook and Instagram profile links on their files, most web-based platform forbid any such links, which further suggests how Grindr is somewhat less covert than Adam4Adam, Craigslist, et cetera.
5. The Federal government and multiple state governments are currently debating more stringently enforced age gates on adult-themed websites, but most regulation is voluntary.
6. Apple's policy statement is a prose-like statement: "What line, you ask? Well, as a Supreme Court Justice once said, "I'll know it when I see it". And we think that you will also know it when you cross it," (see: <https://developer.apple.com/appstore/resources/approval/guidelines.html>).
7. Grindr members, in fact, regularly exchange illicit photos on the interactive tier without penalty, which suggests that the app enforces the policy only on its primary and profile tiers.
8. The mobile version of Adam4Adam blocks illicit photos, which reinforces the assumption that smartphones are more "public" than laptops, though both are in fact personal devices.
9. The author collected the preliminary data during the summer of 2013 and conducted further studies in December, 2013 and January 2014 in both New York City and Charlotte, North Carolina. He acknowledges that further and more scientific data collection is necessary but is also confident that the current data is conclusive enough to confirm the validity of this analysis.
10. Multiple books and articles on this topic have been published in the past decade; for example, see: <http://www.theguardian.com/commentisfree/2011/jul/25/online-dating-love-product>; and <http://www.economist.com/node/17797424>.
11. A small text field on the primary tier of the app reveals the current margin of error for the relative distance indicator, which usually hovers around plus-or-minus a few hundred feet, which may be either a sign of mediocre technology or an attempt to protect the safety of users.
12. See Kevin Lynch, *The Image of the City* (Cambridge, MA: MIT Press, 1960).
13. To describe these practices, Debord introduces the term psycho-geography, which is most commonly associated with his 1957 map, "The Naked City," in the article, "Introduction to a Critique of Urban Geography" (Paris: *Les Lèvres Nues* #6, September 1955).

that provide orientation within an otherwise undifferentiated fabric. In this sense, Grindr is an ancestor of Kevin Lynch's model of mapping, albeit a distant one, as Grindr is less amenable to his notions of paths, edges, nodes, and districts.¹²

Even landmarks in Grindr are problematic, as members associated with anchor profiles may be mobile and/or temporarily in atypical locations, and as members visiting or passing through an area may alter the scale of the grid in unpredictable ways. The multiple modes of rapid and slow transportation in cities complicate the construction of mental maps based on profile grids. Profiles appear, disappear, and move in various ways and at varying speeds that both reflect the normative vitality of urban life and suggest revolutionary ways to visualize the spatiotemporal logic of a dispersed community united through technology. A user, for example, may deploy the favorites feature of the app in order to "catch" certain members passing through his area for a future chat or meeting.

The undisclosed directionality of relative distances in Grindr further affects its use as a mapping tool. The given measurements disregard geographic, demographic, and political factors (such as bodies of water, neighborhood adjacencies, and territorial boundaries) that may affect the extent to which two members are compatible and the ways in which members map their communities. Built environments are inherently heterogeneous, and the homogenization of distance in Grindr may lead to unexpected incompatibilities and misleading adjacencies. For example, members who are 2000 feet away from each other at a given moment may live 8 blocks or 800 miles apart from each other, and that disparity may be either desirable (for anonymous sex) or undesirable (for a relationship). Likewise, two members who are exactly 1 mile away from a user and appear next to each other in a user's profile grid may be either in close proximity to each other or 2 miles apart from each other in real space. The unspecified elevational difference between members' locations is another variable. The sectional layering of urban space promises to increase in complexity over time, and two members who are a few feet away from each other in plan may not be in the same space.

THE MYTH OF CLARITY

Decontextualize relationships based on measurement heighten the abstraction of mapping practices in location-based meeting apps in ways that productively counter other contemporary trends in urban mapping. New York City's new network of map kiosks, for example, orient maps with respect to the directionality of the installation, as opposed to cardinal north or another standard, so that viewers (allegedly) better understand the relationship between their current location and orientation and the area depicted on the map. Like GPS guidance systems, this map network over-simplifies geographic data and weakens the public's collective sense of direction, as well as its ability to interpret the richness and complexities of built environments. The abstraction of Grindr is an asset to the contemporary city, and the multiple pathways through its interface motivate a sort of mental dance through the city. Not unlike the practices of the Situationists, who famously reordered the map of Paris according to their circumstantial occupation of it, the app revitalizes the urban realm, as it simultaneously brings forth its underlying structure and reveals in its lack of clarity.¹³