



# Error, Ambiguity, and Creativity

A Multidisciplinary Reader

*Edited by*  
Sita Popat · Sarah Whatley



palgrave  
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# On Counter-Mapping and Media-Flânerie: Artistic Strategies in the Age of Google Earth, Google Maps and Google Street View

*Emilio Vavarella*

## INTRODUCTION

This paper revolves around a series of media art projects that adopt, develop and present creative uses of technological errors and glitches in order to subvert the logic, processes and aesthetics of digital mapping technologies. The scope of this paper is threefold. The first is to frame these media art projects as a heterogeneous set of strategies of *counter-mapping* that artists have adopted in response to the rise of mapping technologies such as Google Maps, Google Street View and Google Earth. The concept of *counter-mapping* is advanced in relation to the topical example of Google mapping technologies and a more general tactical exploitation of technological errors. It is based on both the idea of erring, wandering and going astray as a form of tactical creativity, and the material possibility of exploiting or producing errors within a mapping system with non-productive, poetic and dysfunctional goals in mind. *Counter-mapping* implies a specific kind of subjective movement: simultaneously symbolic, physical and affective. The second scope of this paper is

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to describe the subjects (artists, educators, activists, etc.) behind *counter-mapping* strategies as *media-flâneurs* and *media-flâneuses*: experimental practitioners of new forms of networked wandering. Finally, the third scope is that of sketching the image of the *map as dispositif*: an ever-changing net of subjects and objects, articulated across different spaces and media, constituting the background of any *counter-mapping* practice.

## GOOGLE MAPPING

“From the very beginning of cartography” writes Giuliana Bruno in *Atlas of Emotion*, “mapping was a transitory activity” (273). For Bruno, cartographic impulses have always been characterized by “the need to establish parameters and to (dis)locate one’s own body along with them” and by ways and technologies for “securely mapping the viewer in space” (271). If bodies, subjects, affects and technologies can all be mobilized by a map, it is because a map is not a self-contained object, thing, device or tool. As this paper will make clear, the map is best understood as an expanded *dispositif* that regulates bodies and engenders subjectivities, a complex mechanism that is at the basis of any mapping and *counter-mapping* activity. Building upon Michel Foucault’s concept of the *dispositif* and of Giorgio Agamben’s *apparato*, I argue that the map is coextensive with a wide interlocking of subjects, discourses, things and visibilities (Foucault 1971, 1972, 1975; Deleuze 1988, 1990, 1992; Agamben 2006). This large assemblage has a disciplinary function and, as recent studies of real-time mapping in urban spaces have made clear, it manages reality more than it represents it (Picon 2015). The map makes specific things visible, sayable and thinkable at a given time, while it relegates others to the realms of the unthinkable, the unspeakable and the invisible. Google’s mapping project offers the perfect exemplification: it consists of a layered *dispositif* revolving around two main poles: Google Maps, with its emphasis on routing and navigation, and Google Earth, with its emphasis on geo-visual exploration. When considered in its entirety, the assemblage of Google services, platforms and technologies presents the world as a seamlessly searchable, movable and navigable representation. To this assemblage of techniques and technologies, as I will show, correspond specific map-users whose behavior responds to what the map makes possible. What is being delineated here, then, is a cartographic ecosystem in which maps are not only representations but an active part of layered

operations (e.g., data collection, profiling and geolocation), so that while subjects operate with a map, that map in turn operates on them.

Technical descriptions of how Google mapping is configured (in terms of hardware, software, services, business arrangements and applications) can easily become outdated because of the company's constant updates. Nevertheless, we must remember that Google mapping began as a series of mapping experiments in the early 2000s and has grown to offer navigable photo-panoramas in 3D and cartographic maps in 2D through Google Maps and Google Street View, 3D navigable aerial and satellite views through Google Earth, along with the celestial representations of Google Sky—making it the most used and widespread mapping technology in the world. The set of algorithmic (and political) operations performed by its assemblage of services and technologies was recently summarized by Scott Contreras-Koterbay and Lukasz Mirocha as: “[a process of] analog to digital conversion[s] of any kind of world-related, textual and geospatial information as well as visual sensations, commonly known as digitalization [followed by] processing, organizing and sharing all this information with interested parties, from advertisers to common users” (25). Google mapping is predicated on “curating” and “mobilizing” content. Its mission is built upon a constant movement, the foundation for any form of mapping and exploration, here defined in the form of the digital movement of its users and their data, and in that of the geopolitical movements of the company itself at a global level.

It is also important to remember that despite the great innovations introduced by Google, its mapping services are based on historically rooted ideas like immersive mapping experiences and seamless navigation across different perspectives. The “Galleria delle carte geografiche” at the Vatican Palace, commissioned by Pope Gregory XIII in 1580, provides a useful example. It consists of a 120-meter-long gallery featuring maps depicting the Italian territory in great accuracy and from different perspectives, ranging from close-ups of cities and ports, to bird's-eye views of entire regions. The Vatican's gallery presupposes multiple mobile voyeurs, or users, circulating within an immersive environment open to social exchanges. It should remind us that Google's use of contemporary technologies to construct its maps as fluid interfaces is just the latest chapter in a long history of immersive mapping technologies. When considered in its entirety, Google mapping can be understood as a contemporary map room able, in Bruno's words, to “conflate in one place new knowledge of the physical world, [...] extending from geography



to cosmography [...] reaching beyond the strict conceptual terrain and border of the map” (275).

In an uncanny way, Google mapping seems to coincide with Martin Heidegger’s 1938 emblematic formula of modernity: “the world conceived and grasped as a picture” (129). And if Franco Farinelli is right, and our mental picture of the world has already been informed by centuries of “cartographic reasoning,” it will be precisely in the form of a map that Heidegger’s “world picture” will be grasped (2003). Thus, on the one hand, Heidegger and Farinelli seem to suggest that holding a map in the palm of our hand may stand, today, for the grasping of the world as such. Not because the map represents the world like a satellite photo of our planet would, but because it is the map what makes the world accessible and manageable. The fact that an infinitely scalable “world picture” is the first thing that appears when the Google Earth application is launched reinforces this impression. On the other hand, another idea often brought about when Google Mapping is discussed is (as a quick Google Search can attest), the supposed “archetypical” obsession of mapping a territory until the map itself becomes a territory in its own right. The most common reference for this line of argumentation is the map imagined in 1946 by Argentine writer Jorge Luis Borges in his *On Exactitude in Science*: a tale in which the Empire orders its cartographers to build a map so detailed that it ends up covering, and swallowing, the entire territory that it ought to represent.

But taking Borges at face value (with Google as the new Emperor) means failing to take into account a series of fundamental issues. First, it presupposes that the relationship between “map” and “territory” is based on *mimesis*, without considering the range of ways in which a map is put to use regardless of its representational qualities (November et al. 2010). Second, the idea of “territory,” as Stuart Elden has shown, is a relatively modern conceptual construct and cannot be given a priori (2013). Third, it assumes that a mental image of our planet can exist outside of the influence of mapping techniques, a notion that seems untenable (Farinelli 2016). Fourth, it assumes the self-identity of the map, as if it were an entity closed in and on itself, rather than an open performative process (Verhoeff 2012). Thus, I would argue that even if the world were to be entirely turned into a map, it would still not be possible to grasp it as such, precisely because *fully* grasping a map is always impossible in the first place. The map is a *dispositif* that knows no material boundaries and

has a virtually infinite spatial extension. What is possible is to explore specific techniques able to mediate the relationship between the map and ourselves. For Gilles Deleuze and Félix Guattari, “[the map] is open and connectable in all its dimensions, it is detachable, reversible, susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group or social function. It can be drawn on a wall, conceived as a work of art, constructed as a political action or as a mediation” (12–13). I propose to call these particular techniques strategies of *counter-mapping*, and, as a first concrete example, we will consider Chiara Passa’s series “Live Architectures” (2013–ongoing) (Fig. 1).

The artworks in this series allow people to use QR codes embedded within Google Earth to access animations and produce in augmented reality what Passa calls “extemporary-temporary virtual land-art.” Strongly influenced by glitch aesthetics, these animations include poetic visions like strawberry storms that take over the map, architectural displacements like the relocation of the Greek Parthenon within Carrara’s marble caves



**Fig. 1** Chiara Passa, “Augmented sky-trip on Google Earth - The strawberry ice storm” from the series “Live Architectures” © (2013–ongoing) (Courtesy of the artist)

in Italy or the deconstruction of places like Mount Everest and Passa's childhood garden into abstract forms. In her series, Passa highlights how Google mapping operates and is open to interventions across several spaces (digital, physical, personal and historical), through different devices (computers, smartphones, tablets) and via heterogeneous technologies and techniques (location systems, online links, coding). The physical unboundedness of Passa's project, its transmediality and its performative character reflect well the idea of an ungraspable mapping apparatus. The fact that Passa's artwork exists both within and outside Google mapping and always in relation to it, in turn, reinforces the idea of Google mapping as a *dispositif* that can never be fully grasped. Finally, the fact that her strategies can be instantiated *within* Google Earth shows that Google mapping remains open to critical attacks and creative modifications. Having thus delineated the idea of Google mapping as a *dispositif*, and after this first example of *counter-mapping*, I must add a few notes on the concept of *media-flânerie*.

### *Media-Flânerie*

By looking at Google mapping, we can discern a set of particular modes of imagining, designing and using maps. It is well known that maps have been produced to satisfy all kinds of needs and desires, ranging from colonial control and imperialist claims to foreign lands, to statistical population management and commercial endeavors (Stone 1988; Picon 2003, 2015; Rankin 2016). There are countless kinds of maps and multiple ways of mapping, but to each kind of map corresponds a certain set of ideals which inform the work of the map maker and the way a map is used and misused. There are also countless examples of imaginary and fantastical maps to which other kinds of uses and subjectivities correspond. I could mention, for example, the "romantic subject" who ideally inhabited the emotional "Carte du pays de Tendre" (1654) designed by Madeleine de Scudéry, the "Royaume d'Amour en l'isle de Cyhère" (c.1659) by Tristan L'Hermite and the map of "The Attack of Love" (1745) in Mattheus Seutter's "Atlas Novus." Or I could mention the "visionary subject" who would have walked alongside Dante and Virgil while exploring the complex topography of multiple infernal circles and inhabited the fantastical "Map of the road to Hell!" (1858) by Barillon Bernard, or the "Maps of Fairyland" by Sleight (c.1920).

Although these quick categorizations are rough approximations, relating particular mapping technologies to particular subjects and subjectivities, as I do throughout this paper, offers a way of thinking about mapping in a wider sense. Furthermore, according to Tom Conley's *The Self-Made Map*, modern notions such as subjectivity, selfhood, nationhood and identity are all strictly related to the historical developments of cartography. And whereas the historical co-production of the modern ideas of "cartography" and "selfhood" can be traced back to the beginning of the fifteenth century, the subjectivities producing and consuming seventeenth-century or nineteenth-century maps are necessarily different from those related to contemporary mapping. Farinelli has investigated precisely this long history of cartographic forms in relation to shifting notions of reality among Western subjects (2009). In this sense, the map is not only a Foucauldian or Deleuzian *dispositif*, as I mentioned earlier, but it also constitutes a *forma mentis*: a way of thinking about and making sense of the space we inhabit and portray. Here I will focus specifically on how Google mapping is inseparable from a subject always mediating his or her position and escaping fixity, in a process of spatial and visual mediation that I call *media-flânerie*.<sup>1</sup> The *media-flâneur/flâneuse*, in my opinion, is the subject emerging from a particular intertwining of the politic with the poetic across new mapping technologies of order and control, such as Google mapping, and through novel creative subversions based on the exploitation of the creative possibilities enabled by mapping technologies. I am not claiming that previous cartographic *dispositifs* were less mediated, or entailed less movement and erring, and I do not want to argue that Google mapping produces subjects in a techno-deterministic way. But it should be clear that no *counter-mapping* practices dealing with augmented reality applications, galvanic skin responses, subversive Java scripts, hidden cached images, networked data packets, texture mapping glitches and fake driverless cars (all examples discussed in the following pages) could have been possible (and in many cases thinkable) just a century ago. Thus, despite the fact that contemporary mapping and *counter-mapping* have a long and rich history, I want to point out a constellation of correspondences that is unique to our current media landscape and that has been brought to light by today's *media-flânerie* and its associated practices.

The term "flâneur" gained cultural prominence in the nineteenth century, initially referring to people who loved to stroll and wander aimlessly. The flâneur was the first real connoisseur of the modern metropolis, and

flânerie, from a cultural perspective, was the product of modern crowds, modern cities like Paris and modern architectures like the arcades. As it was first described by French poet Charles Baudelaire, and was later rethought by German philosopher Walter Benjamin, the flâneur is the subject who more than any other has represented and embodied scopic movement, eventually becoming the archetype of the modern observer. More recently, Anne Friedberg has introduced the figure of the flâneuse as a complementary modern subject born in relation to other nineteenth-century innovations, such as the department store, and to a general renegotiation of gendered scopic desires (1993). As all the examples that I will discuss revolve around visibility, we must consider this scopic register of utmost importance. But does it still make sense to talk of flânerie at a time in which people seem to be more and more spatially confined by their technological devices? And what kind of flânerie is possible when public spaces of aggregation become increasingly rarer and leisure walks have almost disappeared under the freneticism and social architectures of Western lifestyles? I believe that as modern cities radically change and become increasingly more networked, the concept of *media-flânerie* must reflect the specificity of a media-saturated environment that is very different from that of Paris in the nineteenth century and yet preserves a cultural interest for aimless roaming in virtual (and less virtual) spaces. Flânerie, therefore, must be rethought at a time when the environment is being increasingly understood as a media process. Here, what we consider the realm of visibility is constantly processed and dislocated via media technologies. Today's flâneur/flâneuse is concerned with urban spaces just as much as with the constant streams of images offered by all kinds of screens and interfaces, with his or her movements constantly shifting between physical and virtual places. The *media-flâneur/flâneuse* manifests himself or herself as a subject who spans mass participation, swarming, hyper-connectivity, collective intelligence, alienation, disjunction, paranoia and individualism—often in quick succession. For example, in the age of data collection, social media and 24/7 surveillance, almost everything is always ready to be quantified and assembled in some kind of big-data pool, and the *media-flâneur/flâneuse* is fully participating in these processes. Yet, *media-flânerie* is also characterized by an appreciation of gaps, errors, ruptures and instabilities, as if these offered a way of escaping the capturing devices of media-capitalistic systems. Whereas nineteenth-century flânerie existed in relation to moving through the specific architecture of Paris, *media-flânerie* is the product of new movements through software

architectures, information highways, data aggregates and hybrid interfaces—just like those activated by Passa’s “extemporary-temporary virtual land art.” The suffix “media-” stands for the important role played by multimedia technologies, but also, and more importantly, for issues of “mediation” between predefined outputs and alternative goals that are at the core of the creative exploitation of errors and glitches. Finally, in his study of the “end” of a certain kind of flânerie, Michael Bull stated that alternative “forms of flânerie might exist in the appropriation of artistic databases or in the appropriation of dominant landmarks” (152). My concept of *media-flânerie* follows closely this interest in appropriationist practices, confirmed by the fact that an impressive number of artists have been participating in the widespread effort to appropriate and deconstruct Google mapping images through different strategies of *counter-mapping*.

## COUNTER-MAPPING

Although the term “counter-mapping” was coined in 1995 within environmental discourses, the phenomenon is at least as old as mapping, and yet its history is still mostly unwritten.<sup>2</sup> To counter-map means to adopt alternative organizational systems, opting for strategic forms and practices that are voluntarily antagonistic to the map, and that range from para-military tactics to artistic strategies. Guy Debord’s psychogeography, for example, can be considered emblematic of *counter-mapping* practices developed through all kinds of Situationist strategies and games (1955). The goal of such practices was often that of providing alternative interpretations of a map, and the means often involved strolling and wandering in physical spaces. The Situationists knew well that *counter-mapping* must be inscribed in a counter-discourse of political circulation and scopic desires in relation to certain mapping *dispositifs*. *Counter-mapping* emerges with every attempt to remap a territory, to reroute subjects and perspectives and with any attempt to undermine the mappable. *Counter-mapping* can be about abstraction and reduction, as in “Fata Morgana” (2010) by artist Damon Zucconi, which strips Google Maps of everything but its text and interface, producing minimal barely navigable maps of names floating in space and reducing the map to its nominal values (Fig. 2). Other *counter-mapping* strategies are concerned with embracing the accidental encounter with an error or glitch within the map. For example, Juliet Eldred’s series of photos “Postcards from the Void” (2015) focuses on one particular glitch that appears in several user-submitted



**Fig. 2** Left: Damon Zucconi, “Fata Morgana” © (2010). Right: Christian Nold, “Greenwich Emotion Map” © (2006) (Courtesy of the artists)

360° panoramas integrated into Google Street View’s interface: a black hole—a point of discontinuity in the immersive experience offered by Google that opens a space for reflection. And as mentioned before, *counter-mapping* often entails wandering, a form of erring that is less about errors and more about affective movement. For example, in his participatory *counter-mapping* project “Greenwich Emotion Map” (2006), Christian Nold asked a group of Greenwich residents to go for a walk while wearing Bio Mapping devices able to measure their galvanic skin response to particular locations. Then, he layered a visualization of the gathered data on top of Google Earth, in a tridimensional mapping of emotions that gave shape to the emotional dimension of moving in space, producing new sentimental geographies and highlighting how maps are always partially arbitrary and subjective (Fig. 2).

### SUBVERTING THE MAP: A DESCENDING GAZE

In the following paragraphs, I will provide a series of examples of *counter-mapping* that I believe will further clarify contemporary strategies and possibilities of *media-flânerie*. My account of *counter-mapping* strategies, in the second half of this paper, will follow a descending gaze: starting with satellite views of the entire planet in Google Earth (GE) and bird’s-eye views of natural and artificial landscapes in Google Maps (GM), moving down to the street level in Google Street View (GSV) and then finally out of the digital screen to reclaim the streets.



## ABSTRACTING SATELLITE VIEWS

As in Zucconi's "Fata Morgana," one of the most common *counter-mapping* strategies at the GE and GM level revolves around the idea of preserving part of the map interface while glitching its functionalities in order to reach some level of aesthetic abstraction. Guido Segni, for example, has used the GM interface for a layered net art project entitled "Google is not the Map" (2008). In his interactive mapping project, produced in collaboration with Gionatan Quintini under the collective name Les Liens Invisible, at each click of the mouse we are shifted across perspectives in which no orientation is possible and the only possibility is that of embracing displacement and rejecting geolocation (Fig. 3). JODI's project "globalmove.us" (2008–2011) offers another clear example of how this kind of approach leads to reinscribing the map in a different epistemological order while preserving traces of its original context and function. "Globalmove.us" consists of a website that uses GM and subversive JavaScript to automatically generate patterns and structures with all of the icons from GM's user interface. The viewer has no clear trajectory and is only driven by a scopic bird-eye view curiosity (Fig. 3). In another playful net art piece by JODI entitled GEOGEO (2011), the map is transformed into a canvas on which inconsequential and scalable words like "ERROR" appear for no apparent reason.

These works tactically use GM as a tool for artistic expression in an inversion of power relations, a strategy also adopted by Kim Asendorf, for his net art piece "MAPS" (2013), where GM's functionalism is forsaken while maintaining its interface to obtain abstract colorsapes (Fig. 4). Marco Cadioli's video "Over Data" (2010), shot entirely in GE, shows



**Fig. 3** Left: Les Liens Invisibles, "404 is not the map" from the series "Google is not the Map" (2008). Right: JODI, "globalmove.us" © (2008–2011) (Courtesy of the artists)



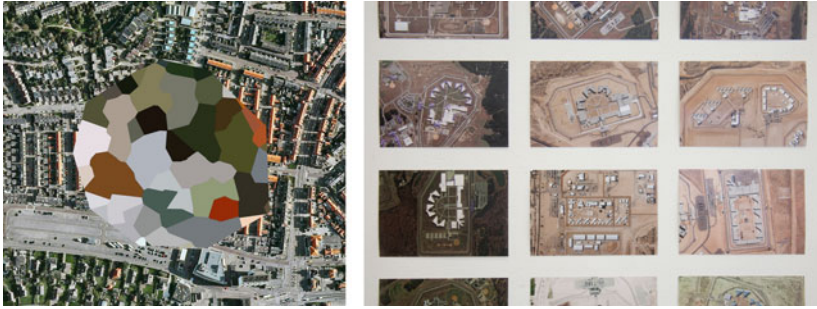


**Fig. 4** Left: Kim Asendorf, “MAPS” (2013). Right: Marco Cadioli, “Over Data” © (2010) (Courtesy of the artists)

a similar logic of reduction and subtraction that leads to a map in which everything has been deleted with the exception of basic information and commercial icons. Cadioli glitches GE’s visual infrastructure to reveal how data configure the architecture of its maps (Fig. 4). In all of these projects, *counter-mapping* always leads to a form of *media-flânerie* without clear purpose or direction, and within a geographical space of informational traces.

## PHOTOGRAPHIC DECONTEXTUALIZATIONS

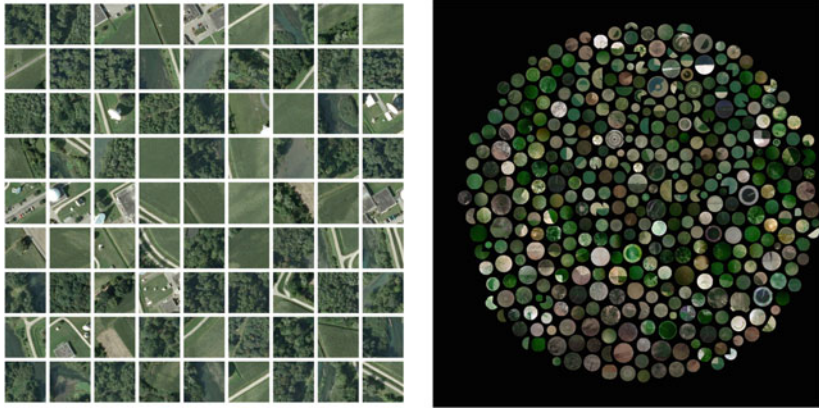
Moving one layer down within the layers of Google mapping, we shift from a global cartographic perspective to aerial views more focused on topographic locations. Here, we encounter *counter-mapping* processes based on the decontextualization and successive recontextualization (a sort of appropriationism) of photographic fragments of the map. Mishka Henner’s “Dutch Landscapes” (2011) will provide the first example. His work consists of a series of photographic screenshots of locations that the Dutch authorities have asked Google to censor. Henner’s reframing of Google’s aerial views and their peculiar digital camouflage highlights how the map is a visual ecosystem contended by political, aesthetic, economic and military forces which extend beyond the space of the screen (Fig. 5). Similarly, Daniel Schwarz’s “Corrections” (2014), a photo collage of all federal and state prisons in the USA as seen in GM, should be considered indicative of a *media-flânerie* that reframes the map to visualize what too often goes unseen (Fig. 5).



**Fig. 5** Left: Mishka Henner, “Unknown Site, Noordwijk aan Zee, South Holland” © (2011). Right: Daniel Schwarz, “Corrections” (Detail of the work) © (2014) (Courtesy of the artists)

In “Cached Landscapes” (2015), Florian Freier adds to these strategies his interest in the devices used to access the map, which also participate in hidden data exchanges. His work presents a series of grid-like photographic collages composed of image data of Google Map’s cached browser history, which was automatically stored and hidden on Freier’s computer after he visited in GE surveillance bases that had been researched by another artist working on issues of hidden visibilities, Trevor Paglen. Here, photographic croppings and automatic savings become the medium of a work about hidden connections. Whereas mapping is always about filtering and removing “wrong content,” in *counter-mapping* the act of filtering and removing is instead a way to highlight something minor, banal, yet potentially loaded with subversive values (Fig. 6).

Jenny Odell’s “Satellite Collections” (2009–2011) and “Signs of Life” (2012) provide two additional examples of how a photographic taxonomy and decontextualization can be coupled with alternative methods of signification. Her series of digital collages embody an object-oriented methodology whose first step is, similarly to Zucconi and Cadioli, to simplify the map through a careful removal of unwanted details. After her subtractions, Odell carefully reorganizes the remaining elements. Odell is interested in reorganizing arrays of objects by typology: landmarks, container ships, cooling towers, billboard structures, roadside signs, industrial implants and so on (Fig. 6). Her work is that of measuring and



**Fig. 6** Left: Florian Freier, “Cached Landscapes, Ionosphären Institut Niederhausen” © (2015). Right: Jenny Odell, “206 Circular Farms” from the series “Satellite Collections” © (2009–2011) (Courtesy of the artists)

reorganizing, and as Virilio puts it: “measurement is displacement. One not only displaces oneself, in order to take the measure, but one also displaces the territory in its representation, its geometric and cartographic reproduction” (5–10). Virilio seems to confirm that without *media-flânerie*, with its displacements and deterritorializations, there could not be any *counter-mapping*.

Another project about displacements, photographic decontextualizations and data exchanges is Guido Segni’s “A Quiet Desert Failure” (2013). He calls it an “ongoing algorithmic performance,” which will unfold over the next fifty years. During this time, an online bot he programmed selects and crops a single fragment of the Sahara Desert every thirty minutes as it appears in GM, and then uploads it to a different website. Slowly, Segni’s alternative digital desert comes into being, but this time with Google’s image database as its primary referent. A photographic decontextualization can be, as Henner and Freier show, a way of configuring counter-mapping as an unexpected way of searching within a map. Or, as Segni demonstrates, it can be an automated and networked way of mirroring a map in its entirety, highlighting its collage-like structure while recombining it, one data packet at a time (Fig. 7).

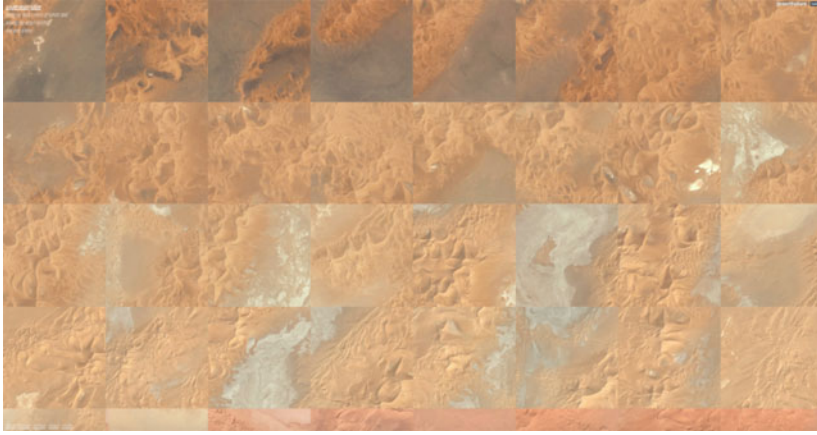


Fig. 7 Guido Segni, “A Quiet Desert Failure” (2013) (Courtesy of the artist)

### SEAMFUL COUNTER-MAPPING

As Segni’s “A Quiet Desert Failure” has already anticipated, a common characteristic of *counter-mapping* is a preference for “seamfulness”: the deliberate revealing of digital seams and the exploitation of features usually considered wrong or problematic (Chalmers et al. 2004; Chalmers 2003). Google has invested considerably in exactly the opposite—“seamless navigation”—in particular since its 2009 acquisition of SmartNavigation, the technology that made it easier to stroll within 3D environments, switch to a bird’s-eye view and focus on the textural details of a digitally mapped world (Filip 2009). Whereas traditional maps tended to have a self-contained size and scale, GM seems to extend indefinitely. It presents and represents at the same time, giving shape to a scalable, multi-dimensional and layered world. What is particularly well-hidden is the patchwork necessary to build such an extensive cartography and the seams that weave together all the individual pieces. Consequently, within Google mapping, we rarely know where one image ends and another begins—all the seams are hidden.

Daniel Schwarz is one of the artists interested in focusing on these hidden seams. For example, his 2013 photographic project “Juxtapose” presents a series of images created by cropping aerial views of scarcely populated areas of the world, which highlight the collage-like structure of

Google's mapping. The peculiarity of these images is that they simultaneously show a location under different atmospheric conditions: for example, the aerial view of a field shows a greenish landscape on the left and a snowy white one on the right. Rather than being a glitch or the product of photo editing, this is a by-product of how Google mapping operates, simply juxtaposing pictures taken in different moments in time. Schwarz's *media-flânerie* within GM has led him to find and recognize these images thanks to the fortuitous combination of radically different weather conditions and of GM's sporadic inability to detect them (Fig. 8).

Another characteristic of Google's seamless representations is its removal of clouds from GM because they would complicate the algorithmic patchwork producing the map and obstruct the vision of Google users. In 2016, artist Karolina Sobecka launched a project called "Last Clouds" (part of her series "The Matter of Air") in which she invited people to submit photo/locations of clouds that have escaped GM's removal process. Around sixty clouds have been catalogued and given names, and still exist both as icons pinned to an interactive map and as screenshots (Fig. 9). Schwarz and Sobecka's approaches remind us that Google mapping is simultaneously synchronic and diachronic: every landscape is a synchronic composite of different diachronic moments: a heterotopic environment whose architecture is constituted by a logical deployment and representation of the world's most transitory aspects.

Moving down through the layers of Google mapping, we find ourselves in the ephemeral space between the aerial views of GE and GM,

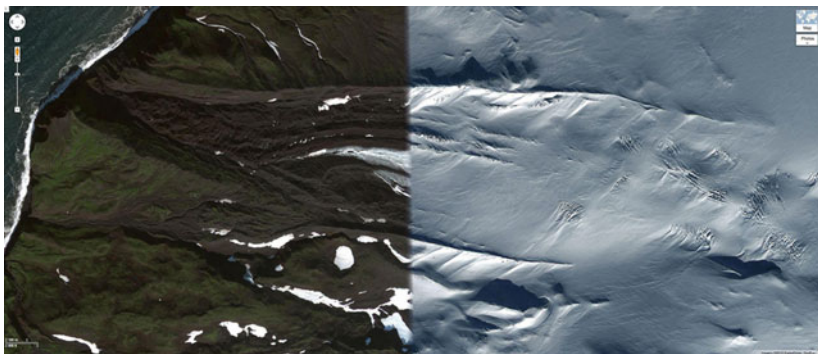
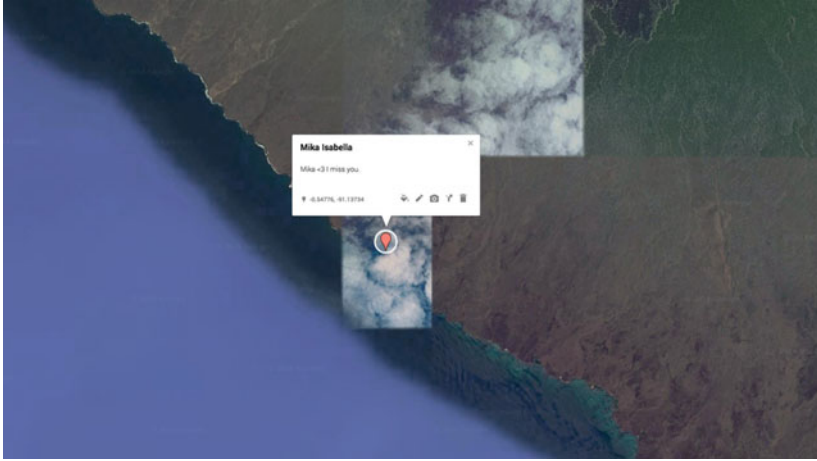


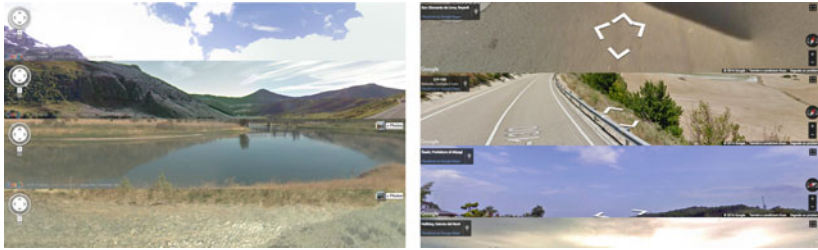
Fig. 8 Daniel Schwarz, "Juxtapose" © (2013) (Courtesy of the artist)



**Fig. 9** Karolina Sobecka, “Last Clouds” (*The Matter of Air*, 2016–ongoing series) (Courtesy of the artist)

and the street views of GSV. At this interstitial altitude, Cadioli’s series of photographic diptychs “So Far and Yet So Close” (2013) juxtaposes portraits from GSV of individuals looking straight at the camera, with GE views of that exact location as seen from above, in a continuous perspectival *counter-mapping* that reinforces seamfulness. One step closer to the mapped surface of the ground and we find ourselves fully within the 3D panoramic landscapes of GSV, which inform Julien Levesque’s net art project “Street Views Patchwork” (2009). This work is built within GSV and divides the browser window into four horizontal strips, each showing a fragment of a different street view. Combined all together, these four views constitute a single composite landscape—demonstrating how patchworking is not only a prerogative of Google mapping. However, after five years of Google updates, Levesque’s compositions only show incongruous street view fragments. In an ironic inversion of sorts, an art project that had devised a way to subvert the map has been subverted, in turn, by the updates to the map itself.<sup>3</sup> Levesque’s project, indirectly, shows us that Google mapping is always producing “accidents” because it is constantly in progress, and it also demonstrates that only an active *counter-mapping* can keep up with a mapping *dispositif* exercising its own agency (Fig. 10).





**Fig. 10** Left: Julien Levesque, “Street Views Patchwork” © (2009–2018). Right: The same project as seen in 2017 (Courtesy of the artists)

### GLITCHES AND ALTERNATIVE ITINERARIES

Proceeding with our overview of *counter-mapping* strategies, we will find that several are based on a virtual wandering interested in building alternative and fragmented photographic itineraries within the map. In his “The Perception of the Maps,” German theorist and psychologist Rudolf Arnheim indicated how perceptual acts must be understood in sequence, how perception emerges from their cumulative functions, and how both mapping and art share this mechanism (5–10). Sequential *counter-mapping* follows precisely this logic of fragmented accumulation, which leads to alternative journeys and which allows us to reframe ourselves as conscious observers within a constant networked flux of images. *Counter-mapping* examples along these conceptual lines range from Jon Rafman’s “9-Eyes” (2009–ongoing) and Aaron Hobson’s “My Street View” (2013–ongoing), both focusing on the photographic sublime as accidentally captured in GSV, to Doug Rickard’s reportages of “A New American Picture” (2011), which adopts a more photojournalistic approach. My own “THE GOOGLE TRILOGY – 2. Michele’s Story” (2012) proposes a recreation of a single personal journey using fragments of GSV images, and Michael Wolf’s “A Series of Unfortunate Events” (2009) is composed of photographs featuring details of GSV along with the User Interface elements used to navigate within it. Mark Amerika’s “Google-Assisted Living” (2007–2012) trilogy presents a combination of many of these ideas: glitched virtual travels (“Lake Como Remix”), distorted photo-reportages (“8-Bit Heave”) and cinematic deconstructions of the map (“Cinécriture”). If considered all together, these projects illustrate different strategies of selecting, cropping, decontextualizing, slowing

down and re-humanizing Google's ever-growing pool of images, while simultaneously dismantling its ideology of neutral functionality.

Furthermore, many *counter-mapping* projects at this level are concerned with the technical limits and the visual gaps of what is represented, as I do in my own "THE GOOGLE TRILOGY - 1. Report a Problem" (2012), where I reframed one hundred photos of glitches within GSV before others could "report the problem" and ask Google to fix its representations. The result is a fragmented photographic atlas of glitches, gaps and software failures documenting the limits of Google's technological power (Fig. 11). Clement Valla's "Postcards from Google Earth" (2010), instead, presents a collection of glitched images, appropriated from GE, in which fluid architectures seem to embrace the natural environment. Valla's work focuses on the performative logic of Google mapping, and his photos are the "logical conclusion" of texture mapping (the technology behind GE). Developed in the 1970s by Ed Catmull, a texture map is ideally a flat scan of a surface mapped on a tridimensional model so that it becomes its "digital skin." However, in GE, the texture map is not a flat scan but an aerial or satellite photograph that includes additional spatial cues such as shadows and perspectival distortion. Looking at GE composite landscapes, then, is always like looking contemporaneously at two different images: two spaces compressed into one. When these two are too different, the overlap becomes evident and gives birth to the incongruous pictures Valla captured during his *media-flânerie* (Fig. 11). What Valla highlighted in an article for Rhizome could easily apply to several of the projects examined thus far: "most of the time [Google's] doubling



**Fig. 11** Left: Emilio Vavarella, "THE GOOGLE TRILOGY - 1. Report a Problem" © (2012). Right: Clement Valla, "Postcards from Google Earth" © (2010) (Courtesy of the artists)



of spaces [...] goes unnoticed, but sometimes the two spaces are so different, that things look strange, vertiginous, or plain wrong. But they're not wrong. They reveal Google's system used to map the earth" (Valla 2012).

Furthermore, glitches not only reveal the inner workings of technological systems, but they can also highlight other forms of labor. For example, in the last part of my trilogy entitled "The Driver and the Cameras" (2012), I collected a series of portraits of Google Car drivers accidentally shot while they were at work, often cleaning or fixing the car's camera. Because of their proximity to the lenses, these portraits escaped the algorithm used to blur and anonymize all faces within GSV. And as in "Report a Problem," the glitch is just the result of Google's own doing, even though through an artistic mediation it can also become a window through which hidden issues of labor and visibility are brought to light (Fig. 12). More ways of highlighting the labor behind the map have been developed by other artists. For example, in "The Camera and the Mirror" (2014), produced within the immersive environment of Google's Art Project's digitized locations, Mario Santamaria collects accidental self-portraits of Google's robot-camera immortalized by mirrors all over the world. Whereas in my "The Driver and the Cameras," Google mapping was given a human face, in Santamaria's photos robots seem to be doing their work with no need for human supervision, foreshadowing possible futures of uncanny automation (Fig. 12).



**Fig. 12** Left: Emilio Vavarella, "THE GOOGLE TRILOGY - 3. The Driver and the Cameras" © (2012). Right: Mario Santamaria, "The Camera and the Mirror" © (2014) (Courtesy of the artists)

## THE OUTSIDE OF THE MAP

Finally, as our descending gaze reaches the street level, we come across *counter-mapping* strategies that move outside of Google mapping interfaces and relocate our gaze within the physical world. But what does it mean, for the *media-flâneur/flâneuse*, to break the frame of the screen and re-enter the physical world? According to Deleuze, “the screen” serves as “the frame of frames” and “gives a common standard of measurement to things which do not have one” (1986: 15). Therefore, *media-flânerie* can only be understood as a mediation of the standard, or a de-standardizing of experience. We can clearly see this in Helmut Smit’s “Dead Pixel in Google Earth” (2008–2010), which acts as a reframing strategy that embraces a technical error, a dead pixel, to bridge the digital and the physical world. His work consists of a square of burned grass in a field near Rotterdam, whose dimension matches that of a pixel in GE satellite view from a height of one kilometer above the ground. Similarly, in Aram Bartholl’s “Map” (2006–2013), we find another example of *counter-mapping* across space. His work consists of an environmental intervention in public spaces that confronts passersby with a large-scale object that looks like the red map pin from GM: an interface element turned sculptural presence (Fig. 13). Paolo Cirio’s “Street Ghosts” (2012) bridges different spaces in yet another way, focusing on people whose images have become part of GSV. His work consists of a series of life-size photos of people found in GSV, affixed to the walls of public buildings in the precise spot in which they were accidentally captured by Google cameras. It is as if Cirio’s operations could reinstate specific



**Fig. 13** Left: Aram Bartholl, “Map” © (2006–2013). Right: Paolo Cirio, “Street Ghosts, at Ebor Street, London” © 2012 (Courtesy of the artists)

instances of *flânerie* that had been captured by Google mapping. For Cirio, “by going back to the spot where information has been extracted from the physical world, and by de-virtualizing it, critical points emerge” (Street Ghosts). Once again, the *media-flâneur/flâneuse* is able to temporarily negotiate the pervasiveness and operational logic of Google mapping (Fig. 13).

Finally, the “Google Driverless Car” (2013) by the (now disbanded) Free Art and Technology (F.A.T.) Lab concludes my itinerary of *counter-mapping* and *media-flânerie* with an iconic piece of Google technology. For this project, F.A.T. Lab built a fake Google Street View Driverless Car and, more importantly, produced and shared an accessible set of instructions to let others do the same. Their idea is particularly interesting given that the Google Car ideally contains its own principle of motion, which is in itself bound to mapping. In a way, the driverless car embodies both the logic of Google mapping and its ideal conclusion: that of automated, coordinated travel along predetermined routes. It is the ancient dream of “repeated movement” that has permeated modernity through the image of the automaton: a self-operating machine able to “extend the life of time and space” while hiding “the mechanisms that create movement” and “pretending to require no effort” (Bruno 2002: 147–150). Interestingly, the automaton, in its historical celebrations and spectacularizations through itinerant shows, seems like a prelude to today’s Google Car. In both cases, we encounter a performative process of *flânerie* that has catalyzed attention, curiosity and sometimes rejection, and has slowly colonized the collective imaginary with dreams of motion and automation. In this last example of *counter-mapping*, F.A.T. Lab tried to repurpose the emblem of Google mapping: rerouting its paths and inverting its course, even if just for a moment. If the driverless trip of the Google Car prefigures itself as the horizon of mapping (the dream of superseding the limits of the body and its immobility, while tracing trajectories and colonizing space), *media-flânerie* rearticulates the old issue of the limits and the reach of a subject within his or her context. An issue that, as Bruno recalls, German philosopher and sociologist Georg Simmel had already posed at the beginning of cinema is: “a person does not end with limits of his physical body or with the area to which his physical activity is immediately confined but embraces [...] the totality of meaningful effects which emanate from him temporally and spatially” (325–335). *Media-flânerie*, perfectly embodied by the figure of a fake GSV Car, thus reveals a renewed agency in a media-saturated environment:

crossing apparent physical limitations, software architectures, information highways, data aggregates, hybrid interfaces, ubiquitous screens, private and public spaces.

## CONCLUSION

To conclude, *media-flânerie* provides the conceptual surplus necessary to begin articulating a theory of the subject suited to our contemporary mapping landscape. Its prefix “media-,” as anticipated, stands for a mediation between predefined outputs and alternative goals. What characterizes the *media-flâneur/flâneuse*, therefore, is the ability to mediate and rearticulate flânerie between physical and virtual environments, as shown in the projects discussed herein. Whereas Google mapping allows for specific and commodifiable ways of moving and looking, artists have subverted this logic. In projects such as those of Eldred, Henner, Sobecka, Schwartz, Santamaria, Valla and myself, maps were reconfigured by embracing every opening offered by errors, glitches and other technical hiccups of Google mapping. When glitches and errors were not readily available, artists like Zucconi, Passa, JODI, Cadioli, Segni, Freier and Asendorf purposefully produced them. In all other cases discussed, multiple strategies have been employed to produce alternative scopic itineraries while highlighting the logic and hidden operations of the map or its accidental aesthetic qualities.

As media theorist Mark Nunes has pointed out, and as the discussed projects have shown, a technological error “reveals not only a system’s failure, but also its operational logic” (3). In a previous work of mine, focused on the genealogy of the artistic use of errors, I highlighted how technological errors generally function as “the digital fingerprint of a specific technology,” while revealing “the invisible technological mechanisms from which [they] originate” (Vavarella 2015). Therefore, a conscious media practice that makes use of mapping errors indirectly brings us a little closer to grasping the logics of technological power. Lastly, the alternative trajectories and the creative possibilities discussed in this paper can be understood as subversive, but as Levesque’s “Street Views Patchwork” made clear, these subversions are also always constrained, contextual and limited in both space and time. Thus, the *counter-mapping* examples I have presented should be considered prototypes for a *media-flânerie* in constant becoming and a snapshot of what *counter-mapping* and *media-flânerie* mean in this particular historical moment. As Google mapping

extends its reach, fills its gaps, fixes its glitches and updates its terms of service, new *counter-mapping* strategies will be more necessary than ever.

## NOTES

1. The term “media-flâneur” has appeared in a handful of publications, but, to my knowledge, a coherent theorization hasn’t been attempted so far. My search of the term “media-flâneuse,” instead, yielded no results. It seems that the first person to use the term “media-flâneur” was Daniels Dieter in 2002. (see Daniels, Dieter. *Kunst Als Sendung: Von Der Telegrafie Zum Internet*. München: Beck, 2002, pp. 189–205.) He also reused this term in a talk entitled *What is the point of art in the media age?* given at “Refresh, The First International Conference on the Histories of Art, Science and Technology” at Banff Centre, Canada, in 2004. Since then, the word has appeared in Giblett, Rod. *Sublime Communication Technologies*. Palgrave Macmillan, 2008, p. 142; and in Fisnd, Jaimey, and Barbara Mennel. *Spatial Turns: Space, Place, and Mobility in German Literary and Visual Culture*. Rodopi, The Netherlands, 2010, pp. 464–468. A similar term, “new-media flâneur,” can be traced back to: Koepnick, Lutz P., and Erin Heather McGlothlin. *After the Digital Divide?: German Aesthetic Theory in the Age of New Media*. Screen Cultures. Rochester, NY: Camden House, 2009, p. 180. It reappears four years later in Lazos, Christina, Nicolaidou Alexandra, and Rachiotis Angeliki (Ed. by), *Ηδιαχρονική επιθυμία της περιπλάνησης αποτυπώνοντας τα βήματα του flâneur* (“The Timeless Desire of Wandering: Tracing the steps of the flâneur,” my translation), Thesis at the National Technical University of Athens, 2013, p. 64; and, finally, throughout Presner, Todd Samuel, Shepard, David, and Kawano, Yoh. *HyperCities: Thick Mapping in the Digital Humanities*. MetaLABprojects (ed. by Jeffrey Schnapp), Harvard University Press, Cambridge, MA, 2014.
2. Sociologist and environmental scientist Nancy Lee Peluso is usually accredited for having coined the term “counter-mapping,” in 1995: Peluso, Nancy Lee. “Whose Woods Are These? Counter-Mapping Forest Territories in Kalimantan, Indonesia.” *Antipode*, vol. 27, no. 4, Octobers, 1995, pp. 383–406. However, the word had appeared in January of the same year in two papers by Peter Poole: Poole, Peter. “Land-Based communities, Geomatics and Biodiversity Conservation.” *Cultural Survival Quarterly*, vol. 18, 31 January 1995, p. 74 and Pool, Peter. “Geomatics: Who Needs It?” *Cultural Survival Quarterly*, vol. 18, 31 January 1995, p. 74.
3. Although involuntarily, Levesque highlights what the Italian writers’ collective Ippolita has named “default power”: the ability of any company like

Google to update their platforms and technology at any moment, regardless of the precarious equilibrium of the “things” that have been built by common users in or on top of it (2015: 38).

## REFERENCES

- Agamben, Giorgio. 2006. *Che cos'è un dispositivo?*. Rome: Nottetempo.
- Arnheim, Rudolf. 1976. “The Perception of Maps.” *The American Cartographer* 3 (1) (April): 6.
- Baudelaire, Charles. 1964. *The Painter of Modern Life* (Orig. published in *Le Figaro*, in 1863). New York: Da Capo Press.
- Belisle, Brooke. 2016. “Nature at a Glance: Immersive Maps from Panoramic to Digital.” *Early Visual Culture* 13 (4): 313–335.
- Benjamin, Walter. 1999. *The Arcades Project*. Edited by Rolf Tiedemann and Translated by Howard Eiland and Kevin McLaughlin. Cambridge, MA: Belknap Press.
- . 2008. “Paris, the Capital of the Nineteenth Century.” In *The Work of Art in the Age of Its Technological Reproducibility and Other Writings on Media*, edited by Michael W. Jennings, Brigid Doherty, and Thomas Y. Levin. Cambridge, MA: Harvard University Press.
- Borges, Jorge Louis. 1999. “On Exactitude in Science.” In *Collected Fictions*, translated by Andrew Hurley, 325. New York: Penguin Books.
- Bruno, Giuliana. 2002. *Atlas of Emotion: Journeys in Art, Architecture, and Film*. New York and London: Verso.
- Bull, Michael. 2013. “The End of Flânerie: iPods, Aesthetics, and Urban Experience.” In *Throughout: Art and Culture Emerging with Ubiquitous Computing*, edited by Ulrik Ekman. Cambridge, MA: MIT Press.
- Chalmers, Matthew. 2003. “Seamful Design and Ubicomp Infrastructure.” *Proceedings of the Ubicomp 2003 Workshop ‘At the Crossroads: The Interaction of HCI and Systems Issues in UbiComp’*. Accessed November 25, 2016. <http://www.dcs.gla.ac.uk/~matthew/papers/ubicomp2003HCISystems.pdf>.
- Chalmers, Matthew, Andreas Dieberger, and Kristina Hook. 2004. “Social Navigation and Seamful Design.” *認知科学 / 日本認知科学会 編 (Journal of Cognitive Science/Japan Society for Cognitive Science)* 11 (3): 171–181.
- Conley, Tom. 1996. *The Self-Made Map: Cartographic Writing in Early Modern France*. Minneapolis, MN and London: University of Minnesota Press.
- Contreras-Koterbay, Scott, and Lukasz Mirocha. 2016. *The New Aesthetic and Art: Constellation of the Postdigital*. Amsterdam: Institute of Network Cultures.
- Debord, Guy. 1955. “Introduction to a Critique of Urban Geography.” *Les Lèvres Nues* #6, September 6.

- Deleuze, Gilles. 1986. *Cinema 1: The Movement Image*. Translated by Hugh Tomlinson and Barbara Habberjam. London and New York: Continuum.
- . 1988. *Foucault*. Translated by Seán Hand. Minneapolis, MN: University of Minnesota Press.
- . 1990. "Postscripts on Control Societies." In *Negotiations: 1972–1990*, translated by Martin Joughin, 177–182. New York: University of Columbia Press.
- . 1992. "What Is a Dispositif?." In *Michel Foucault Philosopher*, translated by Timothy J. Armstrong, 159–168. New York: Routledge.
- Deleuze, Gilles and Félix Guattari. 1987. *A Thousand Plateaus: Capitalism and Schizophrenia*. Translation by Brian Massumi. London and New York: Continuum.
- Elden, Stuart. 2013. *The Birth of Territory*. Chicago: University of Chicago Press.
- Farinelli, Franco. 2003. *Geografia: Un'introduzione ai modelli del mondo*. Torino: Einaudi.
- . 2009. *La crisi della ragione cartografica*. Torino: Einaudi.
- . 2016. *L'Invenzione della Terra*. Palermo: Sellerio editore.
- Filip, Daniel. 2009. "Introducing Smart Navigation in Street View: Double-Click to Go (Anywhere!)." *Google Maps Blog*, June 4. Accessed December 2012. <http://google-latlong.blogspot.no/2009/06/introducing-smartnavigation-in-street.html>.
- Foucault, Michel. 1971. *The Order of Things: An Archeology of the Human Sciences*. New York: Pantheon.
- . 1972. *The Archeology of Knowledge*. Translated by A. M. Sheridan Smith. New York: Pantheon.
- . 1975. *Discipline and Punish: The Birth of the Prison*. Translated by Alan Sheridan, 195–231. New York: Vintage Books.
- Friedberg, Anne. 1993. *Window Shopping: Cinema and the Postmodern*. Berkeley: University of California Press.
- . 2013. "The Mobilized and Virtual Gaze in Modernity: Flâneur/Flâneuse." In *The Visual Culture Reader*, edited by Nicholas Mirzoeff, 403–411. London and New York: Routledge.
- Galison, Peter, and Trevor Paglen. 2013. "The Lives of Images." *Aperture*, issue #211 "Curiosity" (Summer): 36–37.
- Harris, Chad. 2006. "The Omniscient Eye: Satellite Imagery, 'Battleship awareness', and the Structures of the Imperial Gaze." *Surveillance and Society* 4 (1/2): 101–122.
- Heidegger, Martin. 1977. "The Age of the World Picture." In *The Question Concerning Technology and Other Essays*, translated by W. Lovitt, 115–136. New York: Harper & Row.
- Ippolita. 2015 [2013]. *The Dark Side of Google*. Amsterdam: Institute of Network Cultures.

- . *The Facebook Aquarium: The Resistible Rise of Anarcho-Capitalism*. Amsterdam: Institute of Network Cultures.
- Kingsbury, Paul, and John Paul Jones. 2009. "Walter Benjamin's Dionysian Adventures on Google Earth." *Geoforum* 40 (4): 502–513.
- Kurgan, Laura. 2013. *Close Up at a Distance: Mapping, Technology, and Politics*. Cambridge, US: Zone Books.
- Larkin, Brian. 2013. "The Politics and Poetics of Infrastructure." *Annual Review of Anthropology* 42: 327–343.
- Lefebvre, Henri. 1991. *The Production of Space*. Translated by Donald Nicholson-Smith. Cambridge: Blackwell.
- Massumi, Brian. 2014. *The Power at the End of the Economy*. Durham, NC: Duke University Press.
- November, Valérie, Eduardo Camacho-Hübner, and Bruno Latour. 2010. "Entering a Risky Territory: Space in the Age of Digital Navigation." *Environment and Planning D: Society and Space* 28: 581–599.
- Nunes, Mark. 2012. *Error, Glitch, Noise and Jam in New Media Cultures*. New York: Bloomsbury.
- Picon, Antoine. 2003. "Nineteenth-Century Urban Cartography and the Scientific Ideals: The Case of Paris." *Osiris*, 2nd Series, Science and City 18: 135–149.
- . 2015. *Smart Cities: A Spatialised Intelligence*, 105–144. Chichester, UK: Wiley.
- Plantin, Jean Christophe, Carl Lagoze, Paul N. Edwards, and Christian Sandvig. 2016. "Infrastructure Studies Meet Platform Studies in the Age of Google and Facebook." *New Media & Society* 20 (1): 293–310.
- Rankin, William. 2016. *After the Map: Cartography, Navigation, and the Transformation of Territory in the Twentieth Century*. Chicago and London: University of Chicago Press.
- Simmel, Georg. 1971. "The Metropolis and Mental Life." In *On Individuality and Social Forums: Selected Writings*, edited by Donald N. Levine. Chicago: University of Chicago Press.
- Stone, Jeffrey. 1988. "Imperialism, Colonialism and Cartography." *Transactions of the Institute of British Geographers* 13 (1): 57–64.
- Uricchio, William. 2011. "The Algorithmic Turn: Photosynth, Augmented Reality and the Changing Implications of the Image." *Visual Studies* 26 (1): 25–35.
- Valla, Clement. 2012. "The Universal Textures." *Rhizome*, July 2012. Accessed November 2019. <http://rhizome.org/editorial/2012/jul/31/universal-texture/>.
- Vavarella, Emilio. 2015. "Art, Errors and the Interstices of Power." *CITAR—Journal of Science and Technology of the Arts* 7 (2) (December).



- . 2016. "THE GOOGLE TRILOGY: Or How to Play with Google Street View." In *Behind the Smart World: Saving, Deleting, Resurfacing Data*, edited by Kairus, Linda Kronman, and Andreas Zingerle, 41–48. Linz: Servus.at.
- Verhoeff, Nanna. 2012. "Performative Cartography." In *Mobile Screens: The Visual Regime of Navigation*, 133–166. Amsterdam: Amsterdam University Press.
- Virilio, Paul. 1991. *The Lost Dimension*. Translated by Daniel Moshenberg. New York: Semiotext(e).

### ART PROJECTS MENTIONED WITHIN THE TEXT

- Amerika, Mark. "Google-Assisted Living": <http://www.glitchmuseum.com/googleassistedliving.html>.
- Asendorf, Kim. "Maps": <http://maps.kimasendorf.com/>.
- Bartholl, Aram. "Map": <http://datenform.de/map.html>.
- Cadioli, Marco. "Overdata": <http://www.marcocadioli.com/over-data/>.
- . "So Far and Yet So Close": <http://www.marcocadioli.com/so-far-and-yet-so-close/>.
- Cirio, Paolo. "Street Ghosts": <http://streetghosts.net/>.
- Eldred, Juliet. "Postcards from the Void": <https://www.julieteldred.com/postcards-from-the-void/>.
- F.A.T. Lab. "Google Driverless Car": <http://ffff.at/google-driverless-car/>.
- Freier, Florian. "Cached Landscapes, Ionosphären Institut Niederhausen": <http://www.florianfreier.de/cachedlandscapes/>.
- Henner, Mishka. "Dutch Landscapes": <http://mishkahenner.com/filter/works/Dutch-Landscapes>.
- Hobson, Aaron. "My Street View": <http://aaronhobson.com/streetview.html>.
- JODI, "globalmove.us": <http://globalmove.us/>.
- Levesque, Julien. "Street View Patchwork": <http://www.julienlevesque.net/google/view1.html>.
- Nold, Christian. "Greenwich Emotion Map": <http://www.emotionmap.net/>.
- Odell, Jenny. "Satellite Collections": <http://www.jennyodell.com/satellite.html>.
- . "Signs of Life": <http://www.jennyodell.com/signsoflife.html>.
- Passa, Chiara. "Live Architecture": <http://www.chiarapassa.it/artisticprofile.html>.
- Rafman, Jon. "9-Eyes": <http://9-eyes.com/>.
- Rickard, Doug. "A New American Picture": <http://www.dougrickard.com/a-new-american-picture/>.
- Santamaria, Mario. "The Camera and the Mirror": <http://the-camera-in-the-mirror.tumblr.com/>.
- Schwarz, Daniel. "Juxtapose": <http://danielschwarz.cc/juxtapose/>.

- . “The Mexico—United States Border”: <http://danielschwarz.cc/mexico-united-states-border/>.
- Segni, Guido. “A Quiet Desert Failure”: <http://guidosegni.com/work/a-quiet-desert-failure/>.
- . “Google Is Not the Map”: <http://guidosegni.com/work/google-is-not-the-map/>.
- Smits, Helmut. “Dead Pixel in Google Earth”: <http://helmutsmits.nl/work/dead-pixel-google-earth>.
- Sobecka, Karolina. “Gifting Last Clouds”: <http://www.gravitytrap.com/news/gifting-last-clouds>.
- Valla, Clement. “Postcards from Google Earth”: <http://www.postcards-from-google-earth.com/>.
- Vavarella, Emilio. “Michele’s Story”: <http://emiliovavarella.com/archive/google-trilogy/micheles-story/>.
- . “Report a Problem”: <http://emiliovavarella.com/archive/google-trilogy/report-a-problem/>.
- . “The Driver and the Cameras”: <http://emiliovavarella.com/archive/google-trilogy/driver-and-cameras/>.
- Wolf, Michael. “A Series of Unfortunate Events”: <http://www.worldpressphoto.org/collection/photo/2011/contemporary-issues/michael-wolf>.
- Zucconi, Damon. “Fata Morgana”: <http://www.xn--slarsteinn-gbb.com/>.

#### OTHER RELEVANT PROJECTS ENGAGING WITH GOOGLE MAPPING

- Bartholl, Aram. “15 Seconds of Fame”: <https://arambartholl.com/15-secs-of-fame.html>.
- Binder, Justin. “Vacated”: <http://projects.justinblinder.com/Vacated>.
- Cintré, Gaëlle. “Border Patrol”: <http://www.gaelle-cintre.net/en/borderpatrol>.
- Luigi Console and Domenico Barra. “Mighty KongBot”: <http://mightykongbot.tumblr.com/>.
- Nixdorf, Meike. “Your Earth Transforms”: <http://www.meikenixdorf.com/>.
- Odell, Jenny. “Re-enactments”: <http://www.jennyodell.com/reenactments-series.html>.
- Root, Peter. “Digital Detritus Dover”: <https://vimeo.com/36163842>.
- Segni, Guido. “A Lonely Google Space Oddity”: <http://guidosegni.com/work/a-lonely-google-space-oddity/>.
- Treccani, Carloalberto. “Google Streetview”: [www.carloalbertotreccani.com/archives/144](http://www.carloalbertotreccani.com/archives/144).
- Utter, Shaun. “Random Google Maps”: <http://www.shaunutter.com/coding/random-google-maps/>.
- Waller, Angie. “The Most Boring Places in the World”: <http://angiewaller.com/the-most-boring-places-in-the-world-2009/>.

Zanni, Carlo. "Self-Portrait with Dog": <http://zanni.org/wp/index.php/portfolio/self-portrait-with-dog/>.

———. "Self-Portrait with Friends": <http://zanni.org/wp/index.php/portfolio/self-portrait-with-friends/>.