2019

The Sight and Site of North Korea: Citizen Cartography's Rhetoric of Resolution in the Satellite Imagery of Labor Camps

Timothy Barney
University of Richmond, tbarney@richmond.edu

The Sight and Site of North Korea: Citizen Cartography's Rhetoric of Resolution in the Satellite Imagery of Labor Camps
By Timothy Barney

ABSTRACT: *In recent years, satellite mapping of North Korea, especially of its labor camps, has become important forms of evidence of human rights violations, used by transnational advocacy groups to lobby to Western governments for change. A phenomenon of "citizen cartography" has emerged where non-expert humanitarian actors use commercially available software like Google Earth to "infiltrate" the borders of North Korea. This essay interrogates the politics of seeing that takes place in creating the site and sight of North Korea by citizen cartographers, and historicizes these processes of seeing in Cold War and post-Cold War visual culture. Specifically, citizen cartography of North Korea engages in rhetorics of resolution, where the cartographer continually searches for a better, clearer view of the ground below, while still constrained by corporate software and logics of state sovereignty that make it difficult to "resolve" the problem of forced labor.*

During a Senate hearing, on April 29, 2008, Senator Sam Brownback (R-Kansas) opened an address with a chilling story of an imprisoned family led into a glass room with a large metal injection tube, where a group of doctors stood outside taking notes. Soon, gas began to flow through the injection tube, infiltrating the room, and slowly killing each of the four family members. Brownback revealed to the audience that "The story I have just told you did not happen decades ago in Nazi Germany….This story happened to forgotten people in a forgotten part of a forgotten country….The place is called 'Camp 22.' It lies in the far northeastern corner of North Korea."[1] But as the scene in the Senate unfolded, it became clear that Brownback's dramatic story was not just about the horrific crimes of a totalitarian regime and its prison system, it was also about the nature of "seeing" in the contemporary global landscape. The way in which these claims of human rights abuse are envisioned became a central character in the narrative. As Brownback noted to his audience, "commercially available satellite imagery allows

us to look upon Camp 22 for ourselves and verify what the survivors tell us in detail. Google Earth has made witnesses of us all. In these times, anyone with an Internet connection can look down into hell at Camp 22 and witness Holocaust Now."[2] Brownback sought to prove and defend the authenticity of his very methods of seeing, as he implicated his audience in the actions of the North Korean state and democratized the act of visualizing human rights abuses. Brownback invoked the satellite-enhanced map-photo hybrids into his address, while imploring his audience: "I want to show you Camp 22 today. I want you to see its fence lines, its gates, and moats. I want you to see the huts where its prisoners live, the coal mines where men are worked to death, and the forests and fields where the dead are discarded….Using Google Earth's highest resolution, it is possible to trace the camp's circumference perhaps hundreds of miles."[3]

It is important to note that Brownback procured his maps through a project called One Free Korea, a blog run by a Washington lawyer named Joshua Stanton [see Fig. 1].[4] Other independent activists concurrently integrated Google Earth and other software into their work to expose clandestine North Korean actions, most notably the researcher Curtis Melvin, who works for Johns Hopkins US-Korea Institute, runs the North Korea Economy Watch website, and has contributed to the 38 North Digital Atlas.[5] The *Wall Street Journal* has referred to such activists as "citizen spies," Melvin has referred to his work as "democratized intelligence," while Stanton has referred to these kinds of crowd-sourcing mappers, more colloquially, as "amateur squints."[6] Perhaps the label that has stuck the most, though, and which Google itself has used, is "citizen cartographers."[7]

"Citizen cartography" is a complex and fraught phenomenon that is part of a broader transformation of visual culture, informed by the history of aerial visualization and cartography, which changes the ways we frame humanitarianism and human rights.[8] A corporate software

program can now create "witnesses" of transnational human rights violations, with a cartographic interface that permits us to transcend the sovereign borders of a state such as North Korea and see clearly what is happening below. By labeling these Google Earth (and other geospatial software) users citizen cartographers, a certain status is transferred to them that invokes citizenship in the sense of political participation, civic duty, and deliberation. Watching North Korea becomes a rite of the good citizen. Just merely labeling North Korea a "forgotten country," as Brownback did, while showing state-of-the-art satellite mapping, begs for that nation to become a space of Western humanitarian surveillance. The idea that a citizen can quite literally put North Korea back on the map is a profound political act. The label of cartographer is also important, as it takes the power of visualization of space away from professional scientists and places it in the hands of "anyone with a computer." A 2013 *Atlantic* article asked in its headline, "What Happens When Everyone Makes Maps?"—and this kind of question points to the complications that the democratization and simultaneous screening of citizenship has brought amidst a stream of ever-present geospatial intelligence.[9]

Recent scholarship has begun to explore what it means to bring the "citizen" and the "cartographer" together.[10] Work by critical cartographers and geographers has especially focused on the consequences of mapping in an era of Web 2.0 tools that allow the work of everyday people to sketch, in latitude and longitude, areas shrouded by state-sanctioned secrecy or plagued by human rights injustices. This literature hangs on a contention between the hope that such technology brings to truly revolutionize the citizen's role in revealing geopolitical crises and challenging the state to act on them, and the fear that these tools are simply reiterating the pitfalls of the imperial histories of cartography but now through non-experts. Several researchers in the field of rhetorical studies have taken up cartography, satellite imagery, and aerial visualization

more broadly, as rhetorical phenomena bound up in an ever-evolving narrative of scientific progress that often hides a more contentious history of militarized and humanitarian visions of the so-called developing world.[11]

The case of North Korean labor camp mapping, and the discourse around that mapping, is an important representative example of these contributions, but also an extension of them. Specifically, the North Korea case operates through a concept that is perhaps the most revealing that Senator Brownback used in his presentation: resolution. I define resolution as a critical lens by which to examine the discourse of cartography and aerial/satellite photography, and I invoke both its technical and rhetorical meanings. Resolution, on one hand, is a technical cartographic term that notes the ever-increasing capacity to get better clarity in viewing the ground below, recognizing that resolution lessens as we try to get closer to seeing the features of the landscape. On the other hand, I argue that a rhetorical notion of resolution recognizes that cartography and aerial/satellite imagery are part of a long historical narrative of ever-increasing clarity, and that with such clarity comes an expectation that one can somehow resolve geopolitical problems. The widening scope and increased precision of cartographic and aerial technologies has been accompanied by a sense that we can change the world below us through our enhanced vision. The accumulation of more and better digital information presents itself as deliberation—the resolution keeps getting better, thus is our perceived ability to resolve humanitarian and military problems strengthened. Web 2.0 cartographic technology, and its endorsers like Brownback, promote resolution as a way to clear up our blurred vision of North Korea and specifically its human rights abuses. In a way, this makes the deepening and sharpening of pixels in envisioning satellite images of camps somehow equated with helping correct the problem of forced labor, sparking that perennial debate around whether spectatorship, however active it may seem, can be

action.12 By framing this essay around a specifically rhetorical notion of resolution, I seek to add a productive vocabulary to the discussion of how citizens, corporations, and the state position themselves in a visual culture, one that is both new and beholden to age-old conceptions of maps and the all-powerful view from above. Senator Brownback's emphatic "I want you to see…" is more than just an appeal to look at some pictures to accompany speech, it is an invitation to become implicated in this visual culture of seeing from privileged perspectives in a landscape of international human rights and increasingly militant views of North Korea.

To situate the mapping of North Korean labor camps and its accompanying discourse as embedded in a rhetorical history of resolution, I place resolution and the phenomenon of citizen cartography within the important discussions that critical cartographers, geographers, rhetoricians, and others are now sharing about maps and aerial visualization. Then, I make the three main moves of the essay: I explore resolution as an underlying ideology within the rhetorical history of twentieth-century visual culture and within the profound shifts to a new geographic imagination in the twenty-first century; I analyze particular citizen maps of North Korea as well as their surrounding discourses to demonstrate how a rhetoric of resolution positions citizen cartographers as detached, data-centered humanitarians through digital interfaces; and I examine several examples of the circulation of the North Korea maps to show the complex corporate and state visions that affect the ways users receive these images, and how resolution complicates such circulation. I bring these moves together to make the argument that citizen cartography is marked by the rhetorical history of maps and aerial visualization themselves, and the ways both have come to classify, order, and transform political and social space. Such a rhetorical history reveals a powerful but problematic narrative of resolution that emphasizes synoptic vision, democratic progress, and claims to truth.

Defining "Resolution" and "Citizen Cartography" in the North Korean Context

A host of interdisciplinary scholars has encouraged a truly rhetorical history of citizen cartography, aerial visualization, and satellite imagery, while also keeping in mind the cultural and economic aspects of the tensions between citizens, the state, and technology corporations. I offer "resolution" as a way to unite some of these various strands of literature: there is an increasing technical sophistication in digital and mapping technology that prizes the resolution of seeing the ground below more clearly, which then correlates to a seeming ability for the citizen to participate actively in the resolution of geopolitical crises.

Esri (the Environmental Systems Research Institute), one of the corporate firms that provides software for citizen cartographers, defines resolution in its online glossary in technical terms as "the detail with which a map depicts the location and shape of geographic features. The larger the map scale the higher the possible resolution. As scale decreases, resolution diminishes and feature boundaries must be smoothed, simplified, or not shown at all; for example, small areas may have to be represented as points."[13] In looking at a North Korean labor camp through a satellite map, only the outlines of features can be discerned because the resolution diminishes as we try to zoom in, and thus we rely on citizen cartographers to interpret those outlines for us. A rhetorical lens of resolution interrogates the notion that our seeing shapes our actions—the greater the resolution that a map can provide us, the greater resolve we feel we have in understanding and then acting on the problems and conflicts the map frames. This relationship between vision and action is both complex and problematic. One problem is that the telos of resolution is never-ending—using a screen or a map or a photo is to always be mediated; one can never get full resolution. We can never get ourselves inside the camp. But that fact has not stopped the power of its narrative: if we can just see more clearly and with greater resolution, we

think we will have a better handle on geopolitical issues like forced labor, and maybe even control them.

Traditionally, the state (especially the military) informed how we saw the world and at what resolution we would see it, and so much of that could be censored or classified. Cartographic historian J.B. Harley's pioneering work in historicizing this phenomenon in early modernity is typically the starting point in much of this literature.[14] His theorization of the ability of maps to abstract space into clean, inert surfaces for state intervention has also driven other important works by critical cartographers like Jeremy W. Crampton, Denis Wood, and John Pickles.[15] In these works, cartography is a rhetoric of imperial power and state control through spatial abstraction of the ground below. The state, however, is not the only source of our cartographic vision: historians like Susan Schulten have shown how the state, scientific institutions, and popular media share in the creation of a geographic imagination—a reminder that cartography is as much a rhetorical practice with multiple producers and audiences as it is an exercise of top-down control by the state.[16] What's more is that the lines between what is state cartography and what is not are often blurry. Geographer Craig Dalton, for example, has offered an illuminating history of how services like Google Earth and Google Maps have their roots in Cold War state and military applications but are also driven by new twenty-first century corporate interests.

The discourse of citizen cartography often champions the ability of everyday people to crowd-source spatial information in ways that the state and corporations cannot do alone, but as scholars have pointed out, this can obscure the knotty history of states and corporations in providing the platform for these citizens. Geographer Sebastien Caquard has noted that "just as the specific interests of the nation state have largely shaped the reality produced by paper maps

throughout the centuries, the recent convergence of interests between high-tech private

companies and a small group of technologically savvy individuals is now shaping the reality

produced through geosocial media. In this sense, many collective mapping projects in the social

media era can be seen as contributing to the reworking of existing power structures, rather than

truly resisting them."[17] Corporations like Google and Esri allow engaged citizens to see both

more widely and more deeply, giving them the power to zoom in and out with ease—but all the

while promoting the viability of their own products. As Dalton puts it, "Google found a way to

appropriate the technical innovation of state programs and the playfulness of hackers and apply

them to the company's business strategy of popular, individualized consumption and

advertising."[18] The potential consequence is that citizens believe they have control over

resolution, even while relying on a corporate mode of seeing to try and resolve geopolitical

problems.

Because of this, citizenship itself is both challenged and transformed by digital

mapping's narratives of resolution—calling into question what kind of authority and expertise

the everyday citizen has to create maps and interpret satellite images. Martin Dodge and Rob

Kitchin employ sociologist George Ritzer's theory of "prosumption" to advance the idea that the

citizen is both producer and consumer of digital maps.[19] In this theory, citizens are creating their

own maps with a certain sense of agency and often for progressive, humanitarian purposes, but

they do so within a context of providing free labor to geosoftware corporations to help develop

and market their products. On one hand, the crowdsourcing opportunities in citizen cartography

offer productive "challenges to the professional authorship and normative ontology of

cartographic representations and their supposed fixity, objectivity, and authority."[20] Scholars, for

example, have noted numerous successes that citizen cartography has enjoyed in democratizing

knowledge and drawing awareness to geopolitical crises in Darfur, Burma, and Argentina.[21] And yet at the same time, as Dodge and Kitchin continue, "despite the rhetoric of mass involvement," citizen cartography is more often "crowdsourced by a few and not the many, with only a small active group who are setting the ontology and doing much of the mapping labour."[22] In the North Korea case for example, some of the most prominent citizen cartography of that nation and its labor camps is done by lawyers like Stanton and academics like Melvin—they may not be cartographic experts per se, but there is certainly a sense that they have access to elite knowledges and tools that the everyday citizen does not have. At stake in the relationship between states, corporations, and citizens here is the very ownership of cartographic knowledge and who gets to determine the sense of resolution in the Web 2.0 era

Finally, if the terms of state power, corporate ownership, and citizenship are challenged by digital cartography, then so is the nature of vision and visual culture itself. A rhetorical perspective on resolution situates this vision both in a critical history and in an ideological understanding of "seeing" from a Western vantage point. [23] Rhetorician Joshua Ewalt has invoked this kind of history, writing that satellite cartography "brings with it a politicized, militarist, and capitalistic history that produces the subject behind the computer screen as simultaneously a citizen war-consumer and one who has the power of the digital divide to embody the viewing position of the colonizer in advanced capitalism."[24] That powerful position is not just historically rooted, but ideologically rooted as well—an important part of understanding how "resolution" works rhetorically. In this vein, scholars like Joshua Reeves and Marouf Hasian have considered how the gaze of a citizen-subject can be both empowered and disempowered by digital media, and remind us that a business like citizen cartography in the Web 2.0 age often relies on the eyes of Western humanitarian citizens surveying distant places

from abstract positions.25 Such contributions accentuate that humanitarian vision, and the

expectation that we can resolve global problems by having greater resolution, is often anchored

in specifically Western forms of seeing. Roger Stahl's larger project about the militarization of

digital life also gets at these very practices, particularly in terms of complicating how we "see"

the exercise of citizenship. Stahl claims that "The weaponization of the gaze…worked to

captivate, capture, and colonize the citizen while submerging the deliberative impulse. The irony,

of course, is that in purporting to bring the citizen closer to the action, the weaponized aesthetic

worked to distance the citizen from political participation in matters of actual military power."26

Stahl's "weaponized gaze" asks us to consider whether citizens are truly deliberating through

digital mapping and satellite platforms, or merely reifying state and corporate power, traditional

narratives of resolution, and surveillance.

The digital mapping of North Korea specifically affirms this long history of how citizens

are implicated in state and (increasingly) corporate narratives of resolution, and how their vision

is ideologically rooted. It seems important to remember that the cartography of North Korean

human rights abuses is not an emancipatory case of indigenous mapping where citizen

cartographers in North Korea are appropriating technology to highlight the need for social

change. Instead, the North Korean mapping reveals the practices of the Western eye watching a

shrouded culture from outside and above, a culture with little agency to "map back," and the use

of the finger and the eye (enhanced by digital technology) to create an abstract map that then

circulates as evidence that we are ever vigilant over world spaces.

Resolution Narratives of Aerial Visualization, Cartography, and Visual Culture

J.B. Harley wrote that through maps "We can glimpse…the unconscious process of

myth-making, through which the invention of a progressive positivist past is used to justify a

progressive positivist present."27 Resolution is a mythic discourse that sees mapping as marching ever forward and upward as a continually clearer, more detached, and more universal way of analyzing geopolitical crises on the ground below. Such resolution often obscures a contentious rhetorical history of cartography that is wrapped in both militaristic and humanitarian motives emergent in the "view from above."

The ascent of aerial visualization is particularly important to contextualizing the North Korea case. Caren Kaplan's *Aerial Aftermaths: Wartime From Above* offers an account of the view from hot-air balloons and panoramic photography through satellites all the way to drones, pointing out that "Both human flight and photography along with cartography made possible new dynamic interplays between 'seen' and 'unseen' elements, establishing the ambiguities of aerial observation while intensifying the links between these practices and the waging of war."28 World War I, of course, represents a milestone merger between the view from above (and its attendant valorization of technological progress through the airplane and photography) with the business of warfare. And while early WWI-era air proselytizers like General Billy Mitchell reveled in the progressive narrative that the air offered a "much clearer impression of how the armies were laid out than any amount of traveling on the ground," the sense of what is "unseen" becomes just as important (and haunting).29 As Kaplan writes, "If Mitchell's 'clear impression' of the details of the ground did not include the bodies half-buried in trenches or blown to pieces in 'no man's land,' the analog aerial photograph held the information, nonetheless, as unseen, a present absence."30 That sanitization of lived experience on the ground increasingly accompanied the rise of aerial visualization and its discourse: today, the digital cartography of North Korea emphasizes, at much higher resolutions, the structures and layouts of labor camps, while leaving the actual bodies of prisoners unseen. This is an important reminder that rhetorics of resolution in

maps have always operated by revelation and concealment, choosing for the viewer what should be clear and visible.

Global war further heightened the need for abstraction and synopsis of the ground below. The so-called "air-age global" maps of the era preceding World War II and during the war itself, especially in newspapers and magazines, re-created the high-flying feeling of looking over the territory as if it was unfolding in front of the viewer.[31] Particularly novel choices in map projection, and bird's eye view perspectives, made possible by aerial photographs taken by increasingly sophisticated cameras on planes, allowed spectators at home to simulate the nature of the earth as a spinning globe on the flat page and mimicked a kind of deliberative participation alongside state leaders in the strategy of war. Much like their digital antecedents in the Google Earth era, these WWII maps rendered the surfaces of the world as strategic spaces. That kind of abstraction allowed one to objectively and soberly consider the strategic facts of a global war— again, the sense that greater technical resolution equaled greater control. Certainly, these changes in maps accompanied the rise of the synoptic view of government that FDR persuaded the country to take on, as Mary E. Stuckey has argued.[32] This is after all the same president who asked citizens to "look at your map" during a fireside chat as they seemingly were allowed in to the usually shrouded spaces of war strategy.[33] At the time, vision was a central part of the appeal to keeping a beleaguered democratic state together, and the increasingly popular views from the air supplemented that rhetorical vision.

These cartographic visions also became important state weapons, both in public fora and in classified contexts. For example, the collaborative propaganda effort between the American Federation of Labor, the Department of State, and the early CIA that produced the "Gulag— Slavery, Inc." map (1951) was one important precursor of the North Korean citizen maps.[34]

"Gulag—Slavery, Inc." used cartography and photography of camp survivors in a multi-mediated display of the labor prison system in the Soviet Union, marking an important infiltration of shrouded Soviet borders with the power of place. To be able to label a camp with precision marked the map's function as an important evidentiary weapon in the Cold War, and also allowed the concrete suffering of bodies concealed in the map to be abstracted into an ideological argument against Soviet values and ideas. In the process, the map became part of what historian Susan L. Carruthers has called "the transatlantic politics of knowledge."35 This was also on display when Cold War actors such as Henry Cabot Lodge, Jr. and Adlai Stevenson marshaled satellite maps as weapons for the Eisenhower and Kennedy administrations' public campaigns against the Soviet Union.36 The North Korea maps update these tensions for a post-Cold War landscape, as they allow for a very simple but powerful labeling and valorizing of the knowledge of the unknown—the awe of that ability to cross and penetrate borders not with tanks or planes, but with satellite cameras.

The North Korea case can also be traced to the Cold War push towards cartographic digitization, which, as John Cloud and others have detailed, was rooted in the world of classified defense.37 GIS initiatives, for example, come out of the black boxes of satellite and aerial photography in post-WWII military-industrial-academic collaboration.38 The Eisenhower administration, in particular, saw significant federal investment in the construction of reconnaissance satellites, including the "Eye in the Sky" of the CIA-funded CORONA project.39 As Monica Brannon notes, "Reconnaissance satellites further united the mechanical and political achievements of undetected space flight with a particular way of viewing spaces that required seeing as relational, scaled, automated, and from a nonhuman perspective."40 In the process, the dawn of the age of "Big Data," which was reliant on the new locational and satellite

technologies, created a kind of ocularcentrism where "meaningful knowledge" was equated with "a top-down perspective."[41] Mapping was thus increasingly associated with that dual-notion of resolution—that maps would be experienced through always-improving pixels, while also laying out space in such a way that problems could seemingly be more easily solvable.

Concurrent with the growth of satellite technologies during the Cold War was the rise of the technocrat, and with it an ever more synoptic, bigger picture vision of the earth and a conception of seeing as knowing.[42] The ability to see, in one glance, volumes of complex data was equated with how secure the United States was perceived to be. Orit Halpern has written of post-war Big Data how "data visualization became a democratic virtue and moral good; reason was now understood as algorithmic, rule-bound, definitive, and fast."[43] For example, the equation of moral good and technocracy was certainly demonstrated in the cartographic treatment of the "Third World" in the collective Cold War imagination, of which North Korea was a part. Visualization through maps became a central part of seeing what needed to be developed, both to strengthen national interests and security while altruistically helping humanity to rationally see things more clearly.[44] Resolution was, once again, always the goal—to see our enemies and our allies in increasingly clearer vision alongside an impulse for stronger control of the ground below; militarism and humanitarianism were united on the map.

Cold War collective memory still haunts the citizen-produced labor camp maps today.[45] As Christine Hong writes, "the irresolution of war between North Korea and the United States has fostered a speculative intelligence industry," in which the American geographic imagination of North Korea is constituted by a habit of trying to "look behind": enveloped in a kind of iron curtain, punctuated by evidentiary peeks into the mystery.[46] Stephen J. Hartnett has pointed out that there remains a kind of belligerent humanitarianism after the Cold War that assumes, a la

Hillary Clinton, that there is an "information curtain" that has been drawn around places like China and North Korea.47 That transformation from an iron curtain to an information curtain is an important visual and discursive shift that takes place because it casts an area like North Korea as being able to be "saved" through greater resolution in the accumulation of more knowledge and a better, clearer vision.

The resolution of North Korea on the map is constituted by the twinned histories of militarism and humanitarianism that arose out of the twentieth century. Roger Stahl suggests that "Rather than say that the 3D satellite image has been 'demilitarized' as it has entered civilian life, it may be more accurate to say that the transference has draped the planet with a militarized image of itself."48 While Stahl rightfully sees militarized citizens ("desktop generals") at the controls of digital mapping software, I would also argue that these satellite maps likewise create a humanitarian gaze that is bound up with the militarized gaze—that the impulse to both help North Koreans and protect against them comes from the same context and often the same media.49 Some of the most recent manifestations of these tensions, for example have been seen through "humanitarian drones"—unmanned aerial vehicles and other technologies that target particular areas for aid deliver and gather surveillance around hotspots for global humanitarian intervention. This phenomenon is perhaps the apotheosis of the twinned history of militarism and humanitarianism in modern visual culture brought about by the view from the air. While this article focuses on the citizen cartographic surveillance of human rights issues in places like North Korea, it is worth noting that these drones draw on the same impulses of security/aid and the same kind of vision. As Kristin Bergtora Sandvik and Kjersti Lohne have written, the drones bring about questions "about the causal relationship between knowledge of suffering and political action….Surveillance drones can potentially serve as a 'technology of witnessing'—

providing accurate, real-time information about atrocities….Yet, as is already evident from the history of humanitarian (in)action, there is no necessary link between knowing about human rights violations and responding to them."[50] The kind of questions about the distance and vision of drones also need to be asked about satellite maps made from corporate software.[51] These shifts of vision are reminders that the new maps of North Korea did not just spring from an ingenious piece of software—the impulses behind these maps are part of a complicated arc that encompasses a long history of looking from the air for a greater resolution, one that is always still working itself out.

The Placement of the Citizen in Digital Maps of North Korea

With geospatial technology, the citizen cartographer becomes a remote activist who is engaged and immersed on one hand, and detached and all-knowing on the other. This is the essential tension of resolution narratives: the omniscient, technological viewpoint somehow allows us to become progressive, engaged activists. The implications of that tension are explored in this section by putting the North Korean maps themselves in conversation with their surrounding discourse—resolution discourses that promote the technology and the surveillant gaze itself as ever-evolving, but often complicate the ability to actually resolve the problem of North Korean forced labor.

The very first public maps of the North Korean labor camps appeared as a series of satellite photographs in the *Far Eastern Economic Review* in an article by their correspondent, John Larkin.[52] Larkin wrote:

> No foreigners have ever seen the North Korean camps. They're hidden away in rugged
> mountains, camouflaged from prying eyes on the ground and in the air. Satellite imagery
> of the camps that intelligence services in South Korea and the United States are believed

to possess has not been released. With no physical evidence to refute North Korea's

denials that these camps exist, the testimony of defectors has largely failed to lift the veil

of mystery enveloping them....Until now. The Review has obtained satellite photos of

one of the biggest slave camps, nestled in the mountains of North Korea's rugged far

northeastern frontier with China.[53]

Vision is put at a premium here, as "prying eyes" become a way of liberating the camps from an

information curtain (but stop short of materially liberating the camps). Larkin notes that the state

may possess such maps, but they have chosen to keep them classified for security purposes, and

so he makes a point that it is left up to other groups, like citizen cartographers, to bring them to

the discerning public. Thus, the work of the citizen cartographer is elevated to an important,

authentic truth-telling status that provides something beyond what the state is willing to.[54]

Larkin's work is also careful to mix the satellite maps with corroborating reports from

former camp guards, as once again the focus on authenticity is central. Maps have to engage in

consent with the viewer that they are in fact a map, and with that status comes an aura of

reliability, precision, and correspondence to truth. This process of consensus is especially

important with the North Korean maps because ostensibly they are satellite photos that are

overwritten with the familiar qualities of maps: icons (or postings), text, and a basic spatial

network. The user has to accept the map as offering something beyond an aerial photograph, and

thus a system of cartographic inscription takes place over the satellite image. Larkin's maps are

simple aerial perspectives of a vast network below—Camp 22, for example, comprises 16

compounds, from theatres to propaganda bureaus to "detention and torture centres." In stark

black and white, numbered buttons correspond to the names of each facility, with the

compounding caption "No. 22 Camp HQ: Prisoners transferred to its feared detention centre

rarely survive." The drama of the caption contrasts with the fuzzy details of the camp on the photo/map—viewers have no idea what they are looking at until they are assured by Larkin and Digital Globe.55 Once again, a map traffics in that exchange of trust, and the "reality" of North Korean human rights violations emerges through a rhetoric of resolution in the belief that we can always get a better, clearer view.

At the same time, this potentially focuses these North Korea maps on the methods and form rather than the content and message. Shortly after Larkin's maps caused a stir, the first draft of the comprehensive and influential *Hidden Gulag* report on North Korea by the DC-based Committee for Human Rights in North Korea appeared in 2003, which comprised a dynamic group of think-tank and university academics, foreign policy professionals, human rights lawyers, and NGO administrators.56 In the second edition of this report (2012), the authors prize the idea of authenticity and highlight their painstaking methods as a key part of their credibility as North Korean human rights authorities, making overtures to the idea of resolution, as they write:

> The satellite photography of the camps used in the first edition was provided by two private companies that specialize in commercial satellite photos, Digital Globe and the Space Imaging Corporation. Obtaining the photographs and inputting the citations and designations by the former prisoners into the satellite photographs was a laborious and time consuming process. The Committee for Human Rights in North Korea (HRNK) obtained very detailed maps of North Korea that included degrees of latitude and longitude. The maps were airmailed to our local NGO partners in Seoul, who called the former prisoners into their offices and showed them the maps. If and when the former prisoners could locate the camps at which they were held, the degrees of latitude and

longitude were plotted. We then contacted the two satellite photo firms to see if they had

any imagery for those coordinates in their database. If so, we would order detailed

satellite images for those coordinates….By the time of the research for the second

edition, Google Earth made satellite images, often of much higher resolution, of the entire

Korean peninsula available to anyone with a computer and Internet connection. Using the

coordinates from the first edition of *Hidden Gulag*, Korea specialists pored over the

higher resolution images of the camps, identifying the fences and guard towers that

demarcate the prison camp boundaries. Google Earth enables pinpointing landmarks with

efficiency.[57]

This supporting discourse for the maps positions the very process of mapping as one marked by

painstaking methods that actually perform authenticity and precision through higher and higher

resolution "with efficiency." Also, the use and mention of the prisoner here in the *Hidden Gulag*

report is done in an almost ironic way—the flesh-and-blood sufferer of state oppression is used

here as part of the cartographic methods and collaboration with the citizen cartographers, as the

prisoner becomes a kind of just another consultant and expert. In a sense, the prisoners become a

kind of cybernetic arm for the mappers and their grueling experience gets digitized into code.

This passage is, thus, a fitting encapsulation of the narrative of resolution: citizen cartographers

and human rights experts filter, with progressively improving technology, the affective and

emotional experiences of real prisoners into a clean, clear, and efficient user experience in trying

to "envision" and map human rights violations in North Korea.

Despite the fact that the maps are created out of verified human experience, the irony of

never having perfect resolution is that the maps end up, necessarily, scrubbing out human

experience and focusing on structures.[58] The Google Earth-produced (and other geospatial

technology companies) satellite images of North Korea reveal empty buildings and enclosures in

sharp contrast with wide-open areas. For example, entering the word "camp" into the 38 North

Digital Atlas, powered by Esri software, pulls up what are termed "incarceration facilities,"

including one labeled "School for children born in camp" and another one labeled, "Jamsang-ri

(Gulag)" [see Fig. 2].[59] The label's choice, in some ways, harkens back to the "Gulag—Slavery,

Inc." map of the early 1950s, where photographs of emaciated children's bodies are depicted

alongside the cartographic postings, the dots, where each of the Soviet gulag camps is located.[60]

While we do not see photographs of camp children on the 38 North images, only blurred-out

satellite images of the structures, the logic of entering seemingly innocent people into the map's

advocacy is similar.

The choice to show these on the maps constructs the camps as a *system*, almost its own

inner society, not as a set of makeshift, temporary prisons unconnected to one another. As

Christine Hong has written, because of "the dark art of North Korea watching, hazy mirroring

surfaces, in this case, defector accounts and amateur satellite maps, reinforced each other as

seemingly autonomous images—a recursive synergy that then crystallized into the solidity and

clarity of received truth. In the process, a Google Earth image of an obscure location emerged

definitively as 'Camp 25.'"[61] This translation process invokes the age-old power of cartography

to label, classify, and, most importantly, order space. One particular image on Curtis Melvin's

North Korean Economy Watch blog, for example, is a master map [see Fig. 3] containing all of

the crowd-sourced place names of North Korea aggregated together, including its prisons, into an

overwhelming panorama. Individual places are difficult to read because there are so many

superimposed on each other—the only useful employment of the map could be to impress the

viewer with the strength and health of democratized intelligence.[62] The map reminds the

viewer just how much work from a vast network of citizen cartographers went into the display. The challenge, of course, is that this supposed high-resolution interactive map obscures the actual North Koreans below, who cannot look back at the satellites, cameras, and citizen cartographers who are surveying them from afar.

Thus what is not shown on these maps is just as important as what is shown: the very body-less nature of the maps is one of geospatial technology's hallmarks. The presence of bodies might signal an uneasy contentiousness and sense of partiality; without the bodies, users are able to indulge in a spatial fantasy of objectivity.[63] As noted by cartographic theorists Chris Perkins and Martin Dodge, "Connotations of a naturalistic objectivity and transparency flow from the use of these visual technologies: the aesthetic of abstraction and remoteness connotes the image as a document of truth, and hides the political work the image is employed to achieve."[64] The camp can be read as a clean, abstract space, as just one of a series of postings on the map. The camp can then be easily aggregated and quantified as "evidence." Benjamin Bratton uses Google Earth as an example, which he says promotes "a blank, purified vision of a planet somehow constructed as an objective integrated context onto and into which history might work, and simultaneously agnostic as to how anything arrives in its place or why."[65] The software is removed from its own formal histories and the histories of the content that it represents. Thus, users cannot escape the issue of a map's age-old struggle to manage the concrete and abstract, particularly acute here in a situation connected to human rights abuses. Brannon, once again, puts this well, as she writes of geospatial technologies like Google Earth, "instead of seeing the difference among spaces and places, the uniqueness of individuals and diversity of experience, there is a relational sameness that is prioritized, standardizing space as algorithmic patterns."[66] What users see is not North Korea, then, but a constructed space of *strategy*, the world reduced

to a cartographic surface to be acted on at some point in the future, always in the future. The cleanliness of the image allows for the resolution of the problem of detention in North Korea to become suddenly clearer.

In the process, users tend to believe that they have the freedom of movement in programs like Google Earth to swoop in from above from bird's-eye view perspectives right into the granular detail of the space itself, immersing ourselves in the progressive nature of the technology. Google Earth, through this sense of movement, often belies the fact that it comprises a mosaic of static aerial photographs. For Farman, in Google Earth "the satellite or aerial photograph serves as an index of a specific moment in time and a representation of that ontological materiality captured by the photographic technology."[67] That sense of three-dimensional immersion and movement, though, is an illusion: the software is built on a series of flat satellite photographs. Sybille Lammes writes, "The range of views and the degree of zooming and moving have increased spectacularly in the case of Google Earth, but as a tool and toy it still depends heavily on reproducible inscriptions."[68] Google purchased the digital mapping service, Keyhole Corp. in 2004, and wove together the images of Keyhole's satellite database into something seemingly seamless. According to Gordon, "This feature provided users with a clearer sense of the immutability of territory. As data in Google's new software were distinctly fluid, its relationship to territory was unfaltering—an impression enforced by the 'you-are-here' feature of satellite images."[69] This tension between detachability from particular places and intense attachment to other places constitutes the rhetoric of resolution in the digital map.

This simulated freedom to move also raises questions about how truly interactive these maps are. So much of the work displayed in technologies like Google Earth, including the North Korea maps, is fashioned and constructed to make it appear as if we are in control of what we

see—that the resolution is in our hands. At the same time, the very simplicity of the interface in its ability to create that seeming control is a rhetorical gesture. In an interview with geographer Jeremy W. Crampton, Avi Bar-Zeev, co-founder of Google Earth and Keyhole, remarked that, "GE was designed to work like a physical globe on steroids (in a good way). With a physical globe, you can grab it, spin it, and so on, all in a very natural, intuitive manner. You don't need to form complex queries to see interesting and useful visual results in GE. That kind of complexity comes pre-digested for you, for better or worse. And that pre-digestion also makes the system much more nimble in terms of performance, which goes back to ease of use and the basic 'wow' factor."[70] Citizens are made to feel as if their inquiries into Google Earth are free and unfettered, but they are, of course, bound up in corporate and technical choices made by engineers and marketers. With Bar-Zeev's comment, we are reminded that the "wow factor" is one of the hallmarks of Google Earth—the form of the technology is as central to the experience as the content it displays. In the North Korea case, this factor asks if we are overly impressed by our own abilities—and interrogates whether our agency in a digital social change situation is exaggerated. As Brannon writes, "reducing complexity through a 'pre-digested' product limits a critical awareness from the public and strengthens false notions of 'real' objective mechanical production of an image."[71] The visual rhetoric of the North Korea images is caught in a tension between a map's ability to present and frame data that can be used for social change, while still always remaining a tool of social control.

The Corporate Lens and North Korean Maps

Resolution is also profoundly affected by who, or what, provides the access to that vision. As noted earlier, resolution in mapping has often been a function of the state—it powerfully controlled the ways the world was classified and envisioned, at what scope, scale, and vantage

point that it chose. And, therefore, the state was largely seen as the institution that could "resolve" problems. Recently, however, the declassification of GIS and GPS technologies from their military roots led to the proliferation of powerful corporate forms of resolution, which as Brownback illustrates, now even direct state forms of vision. Corporate forms of cartographic vision are not new—think of the prominence of firms like National Geographic in producing the twentieth-century geographic imagination—but what is new is the seeming autonomy and ease that corporations give users.[72] The very public goals of such citizens to agitate against human rights violations are met by the potentially conflicting goals of private companies. The eventful circulation of the new North Korea maps reveals how a corporate lens can limit the advocacy of digital maps. The citizen cartographer is not a free and unfettered agent of change, but one beholden to the visual frames of corporations like Google. Resolution is never value free, even though users may feel like they are getting an unvarnished view from above.[73]

In early January of 2013, a host of news outlets reported that Google chairman Eric Schmidt was traveling to North Korea on a kind of tour with former New Mexico governor Bill Richardson, along with a small entourage.[74] The travelers were quick to point out that this summit was not sponsored by Google, the government, or any other public entity, and was labeled instead a "private, humanitarian mission."[75] As Richardson emphatically told the Associated Press, "This is not a Google trip, but I'm sure [Eric Schmidt is] interested in some of the economic issues there, the social media aspect. So this is why we are teamed up on this."[76] Richardson, in particular, was aiming to discuss the detainment of a U.S. citizen jailed in Pyongyang, while Schmidt aimed to talk about Internet connectivity and openness and possibly make a donation. Very quickly, however, the visit became controversial, with sharp criticisms from the U.S. State Department that the timing of the trip was spectacularly unhelpful, given that

right before Christmas of 2012, North Korea fired a satellite into space using a long-range rocket, which Washington condemned as the signs of ballistic missile technology testing.[77]

As Schmidt said shortly after the trip, in an effort to explain the purpose of his visit, North Korea "is the last really closed country in the world….This is a country that has suffered from lack of information. The Internet was built for everyone, including North Koreans. The quickest way to get economic growth in North Korea is to open up the Internet. I did my best to tell them this."[78] Schmidt's brand of cross-border techno-utopianism was at odds with the bordered, nation-centric concerns of the State Department. Schmidt's mission and Washington's very public rebuke indicates the unique rhetorical tensions between national security, international humanitarianism, and corporate affairs, and offers a profound comment on the issue of sovereignty in a global landscape of interactive software and Big Data.

It was around the time of Schmidt's trip that Joshua Stanton and Curtis Melvin were releasing their most sophisticated maps yet of the North Korean camps.[79] These events made for a stark contrast: Schmidt, the face of Google, makes humanitarian overtures to a repressive state, while at the same time his massive software apparatus indicts the actions of that state through the application of its data onto latitude and longitude. Schmidt's own technologies were being used to violate the bordered sovereignty of North Korea and expose an underbelly of human rights abuses, even as he traveled to make economic inroads for his company. Complicating this release of a new set of camp maps by groups drawing on Google's data was Google's own attempt to claim a sense of ownership of this cartographic process. For example, on January 28, 2013, Jayanth Mysore, a Senior Product Manager for Google Map Maker, accompanied an official release by Google of new maps of North Korea with a statement encouraging the kind of crowd-sourcing cartography that produced these Korean maps, but of course, all under the umbrella of

the Google imprint.[80] As Mysore reminded readers using a narrative of resolution, "The goal of Google Maps is to provide people with the most comprehensive, accurate, and easy-to-use modern map of the world. As part of this mission, we're constantly working to add more detailed map data in areas that traditionally have been mostly blank. For a long time, one of the largest places with limited map data has been North Korea. But today we are changing that with the addition of more detailed maps of North Korea in Google Maps….Since 2008, Google Map Maker has enabled anyone with an interest in cartography to update the maps of the areas they know, and improve their level of detail and accuracy….Creating maps is a crucial first step towards helping people access more information about parts of the world that are unfamiliar with them."[81] Mysore labeled the collection of contributors to Google Map Maker's North Korea Project as "citizen cartographers," which seemingly has different connotations when used by Google itself. Here, Google becomes the organizer and also main protagonist in a compelling narrative of resolute progress with a focus on a consistent and constant increase of knowledge, awareness, but also through the citizen cartography label, inclusion, while also trying to reclaim a modicum of authority in the race to map North Korea.

More than a few researchers have commented on the fact that Google Earth and Google Maps simulate a community of collaboration and mobility inside the logic of a competitive, hegemonic corporation.[82] As Lindsay Palmer points out, Google "encourages various companies and organizations to draw upon its mapping interface in order to create mashups that allow for more specific and often more subversive attempts at geospatial visualization. *Google* uses this service to cultivate an ethos of collaboration, suggesting that its status as a private corporation comes second to providing useful tools to a global public."[83] Part of this ethos is the rhetoric of network power, or in Sangeet Kumar's terms "an amorphous web of treaties, organizations and

institutions, which functions by presenting its private interest as a global one."[84] The best

interests of the globe are conflated with Google's own private interest in the free flow of

information. Such a conflation is also predicated on a kind of placelessness inherent in network

power, for Kumar: "a web where, in principle, each node has as much control as another. This

architecture also entitles [Google] to claim that they represent the global good, as opposed to the

parochial interests of a particular location, since all points on the network could equally use it to

its advantage."[85] To operate from "no place" is to be able to claim that one is above *interests*. In

the process, Google is able to fashion its citizen-viewers as data-driven technocratic

humanitarians, with the right resolution to enact change.

All of this becomes a strange kind of balancing act, of course, for Google, and raises

important questions around cartographic expertise. In a critique by *National Geographic* shortly

after Google's release of their North Korea maps, the magazine's Director of Research Juan Jose

Valdes wrote that "While the democratization of mapmaking has much to add to an old science

by allowing anyone with access to a computer to upload their findings, it's also important that

we acknowledge the pitfalls and limits of citizen cartography….It's one thing to record and

portray place-names on a map as recognized by locals or wondering citizen cartographers. It's

quite another for them to abide by the official cartographic policies of the territories they are

mapping.…In many places, little can be achieved without the approval of local and or national

authorities—especially in North Korea."[86] Elsewhere in the op-ed, Valdes notes *National

Geographic*'s own role as a contrast, as he writes, "When attempting to map contentious areas,

National Geographic not only works closely with individual governmental entities but also with

external entities, including international toponymic (place-naming) authorities and agencies such

as the United Nations." Valdes also importantly reveals a still-powerful perspective around

cartography as he adds, "From National Geographic's perspective, all a map should accomplish is the actual portrayal of national sovereignty, as it currently exists….To do otherwise would give map readers an unrealistic picture of what is occurring on the ground."[87] Of course, *National Geographic*'s charges against citizen cartography could be chalked up to a tacit acknowledgment that its more traditional approaches are becoming obsolete, but nevertheless, these exchanges speak to a wider issue about the story cartography not only tells the world but the story it tells itself. Here, a conglomerate like *National Geographic* is drawing on a history of cartography disciplining and consolidating power, alongside mapping's cult of objectivity and expectations of faithful representation. Valdes wonders aloud about the very nature of cartographic collaboration and its rapprochement between state power, academic science, and public opinion.

The *National Geographic*'s response to Google indicates an open debate on the question of how much this citizen-cartography, as exemplified in the North Korean camp controversy, is a corporate-controlled narrative, how much of it is determined by state-sanctioned knowledge, how much of it is controlled by both software and cartographic experts choosing what it is we see and how we see it, or how much of it truly is in the creative hands of activists on a transnational level. The freedom of the user to "see" is bound up in a negotiation between the humanitarian citizen and the software itself, leaving an open question around just how much Google has democratized expertise. If the state controlled the resolution of maps during the Cold War, now it seems the corporation controls the resolution of maps today. That shift is an important one to mark: as citizen cartographers have seeming freedom to "invade" North Korea through software, the state still largely controls the ability to act on North Korean transgressions (through sanctions and weapons), even as these state actors are using the ocular, high-resolution

tools of a profit-seeking corporation. This heady mix of citizenship, state sovereignty, and corporate surveillance is now a hallmark of twenty-first century vision and directs the narratives of resolution today.

Conclusion

On August 8, 2017, President Trump told reporters gathered at a golf club in New Jersey that "North Korea best not make any more threats to the United States. They will be met with fire and fury like the world has never seen."[88] *The Atlantic'*s coverage of Trump's response came equipped with the now-requisite satellite map imagery with yellow arrows and labels indicating a uranium enrichment facility.[89] Without any reference to it in the ensuing article, the visual of the nuclear structure stands on its own. That is the power of satellite mapping—an ability to be read as "truth-telling" with little context. With the escalation of hostilities between the two countries reaching ever upward, interrogating the ways in which we envision North Korea has become more important than ever before. Certainly the language of presidents helps direct our vision of North Korea, but as this essay has demonstrated, we must account for the variety of discourses that the geographic imagination of the area has produced—including the satellite images accompanying such language that are now ubiquitous and often go unquestioned. North Korea is a multilayered rhetorical construct, both a real site and a complex set of sights—we often experience a site like North Korea through the sight of its clandestine camps, outlined through the resolution of pixels on desktop interfaces, and that kind of experience has its consequence.[90]

One question left unanswered thus far is how this tendency toward resolution affects actual U.S. geopolitical relations with North Korea on the ground. Geopolitics, since the early 20th century, has been a pseudo-science of surfaces—the world is a mapped gameboard, where strategic interests can be reduced and simplified into discrete ideologies, and those spaces on the

map become open containers. Areas like North Korea have traditionally served as surfaces to be filled in by the knowledges produced through Western surveillance and intervention. Today, those producing such knowledges may look a little different than the scientists and policymakers of old, but they are still serving similar abstract purposes. In a sense, the endgame, as during the Cold War, where the U.S tried to place its knowledge of the Soviet Union on the map, is to impress makers and viewers alike with the knowledge that "we know what you're doing—over there." Beyond that, the goals are fuzzier. In other words, what to do with that knowledge is less clear, and while the citizen gains a certain agency from their power over the geospatial software, they still operate within corporate and state rhetorics. Maps are always constrained by their histories of state power, as much as they can argue for social change.

More specifically, reaching back to Senator Brownback's invitations for his colleagues and in turn the American people to see and witness North Korean transgressions against international standards of conduct, we are faced with the legacy of twin histories of militarism and humanitarianism in viewing the region, of which Trump is now a part. Prison camps are just one constituent part of what emerges in the digital translation process as "North Korea." The history of modern humanitarianism has continually been bound up with concerns around national security—to provide aid, to offer technical assistance and resources, and to defend human rights in so-called developing nations has most often been argued in the interest not just of altruism but of protecting security and democratic ideologies.[91] Satellite maps by citizen cartographers of North Korea cannot escape this history. To get a clearer vantage point of North Korea through a humanitarian lens is also to look through a militarized lens. Let us not ignore the fact that the same geospatial technology used to track labor camps is used to track nuclear sites—all are smoothed out into the same bird's eye viewpoint and abstracted into ideology.

Based on these contexts, it is important to remember the tensions between the form of the satellite map (and its history of being used as both state weapon and activist document) and the actual content. According to Andrew Herscher, "If the manifest content of a satellite image was a scene of the surveilled world, then its latent content was the power of the surveillance state to produce this scene in the first place."[92] This remains true, but the notion of a surveillance state simply packaging images for consumption is complicated by the advent of citizen cartographers. Citizen cartography defies traditional notions of cartographic expertise, while still reinforcing particular ideologies of security and statism. Even though citizen cartographers have done the translating of raw photos into maps, we are still in a paradigm where we expect our leaders to take that information and act on our behalf; the Brownbacks of the world are still who we look to in order to challenge human rights abuses. Thus, we remain transfixed by the power of geospatial technologies, but still hamstrung by the very real issues of geopolitical sovereignty. We are bound to what corporations and the state are willing to show us, and yet we have more knowledge, and more ability to acquire that knowledge on our own, than ever before. The character of that knowledge needs more critique by interdisciplinary scholars. We are often simply completing narratives of resolution, where the digital interface continues to promise that we will more clearly see the problems, and thus more definitively resolve them. The telos of the North Korean camp mapping is important to consider, as we have to consider if somehow we will eventually be able to see bodies in the maps and photographs, and how that will change (or not change) our sense of vision. And of course, we are left with the question whether clearer resolution and even greater knowledge will bring relief to the prisoners being surveilled.

The problem that the rhetoric of resolution creates is that it is always never-ending: we are continually searching for a better, clearer view, one that is never quite resolved. Citizen

cartographers work within screens, and when they click to zoom in and get a better view, they end up in another screen—closer to the action, but still a screen nonetheless. North Korea is always a simulation, a clean rendering of a much more complicated scene below. Some scholars have bemoaned the dangers of the loss of expertise that comes with citizen cartography, but I would argue that it is beside the point (and should be in fact, welcome anyway).[93] Instead, the dangers are in comforting ourselves as citizens that these technologies provide some new kind of unfettered access to the truth, to a clear view. That view has a long and complex history, as this essay has pointed out, not a clean progressive narrative. Kaplan's work is once again relevant, specifically, to the inquiry around historical narratives of resolution, reminding us that

> a stable view, made incrementally and more precisely legible through progressive technical innovation, can be read against the grain to remind us that a visual culture is always in the process of being pulled together even as it never quite holds true. Satellite imagery and digital computing push this reminder uncomfortably closer to the front of any inquiring mind. What can be 'seen' moves quickly into different questions entirely once the body becomes further displaced by mechanical processes.[94]
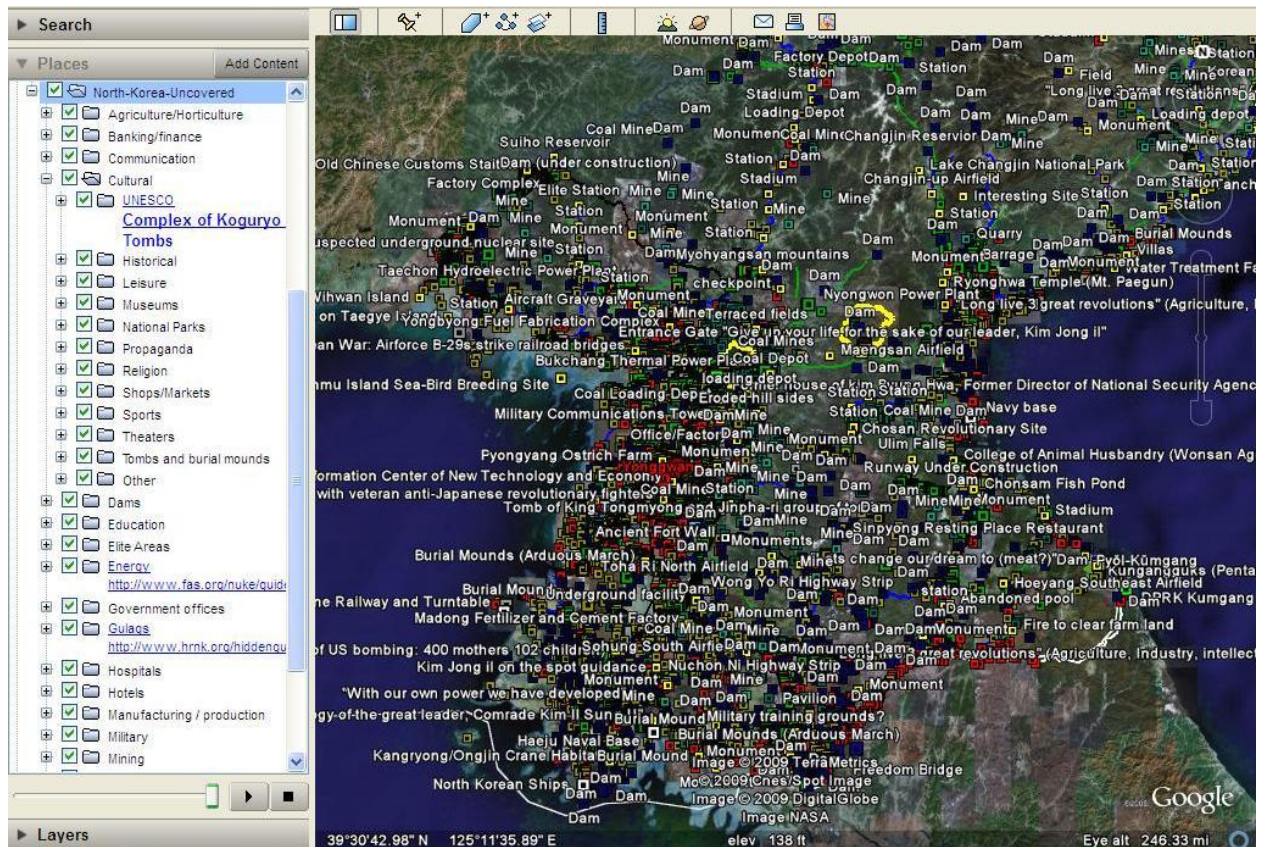
The displacement of both the surveillant Western body and the North Korean body in these maps removes a flesh-and-blood aspect to citizenship on both sides. We think we have control over a stable view, but that sense of stability may be illusory. Meanwhile, the camp remains ever-present below, always under a watchful eye.
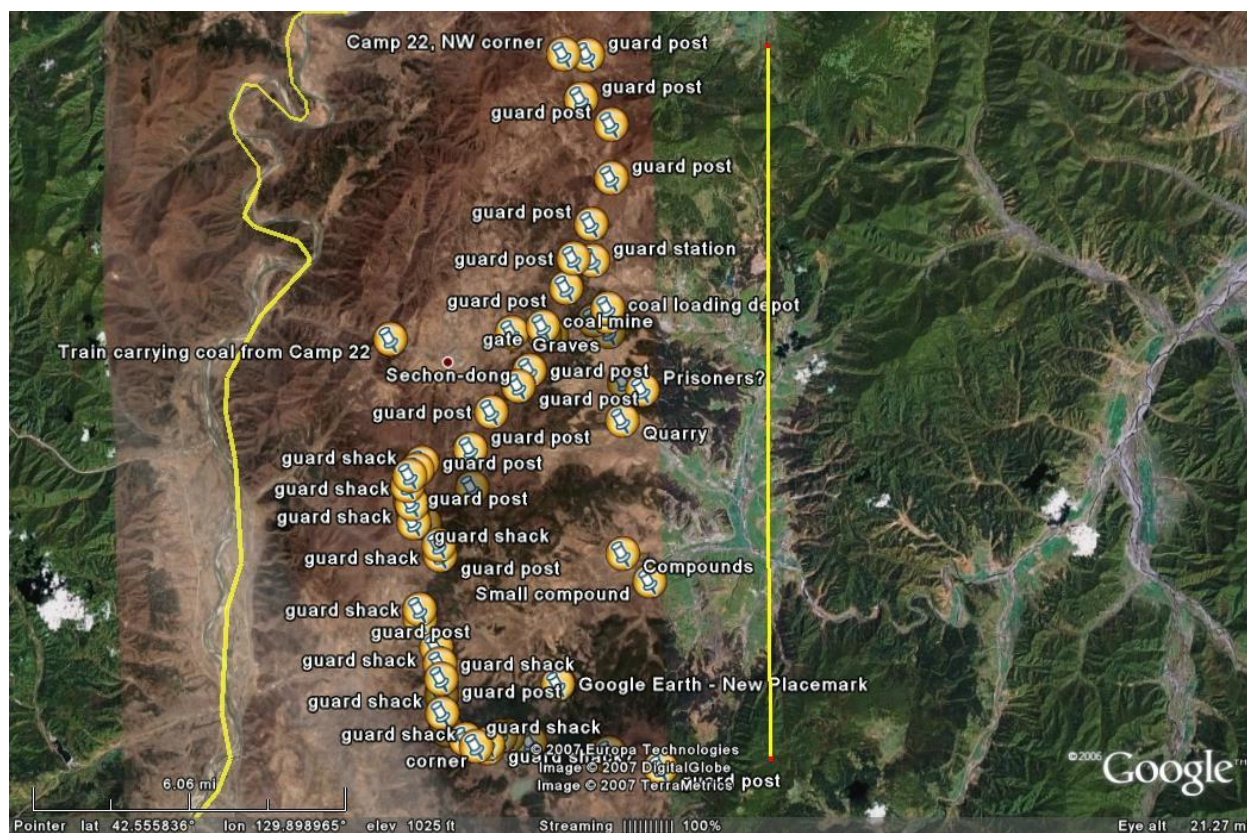
[Fig. 1. Joshua Stanton, "Camp 22," *One Free Korea*, Blog, http://freekorea.us/camps/22-2/#sthash.gNIvFKMv.c5tOHgMd.dpbs]
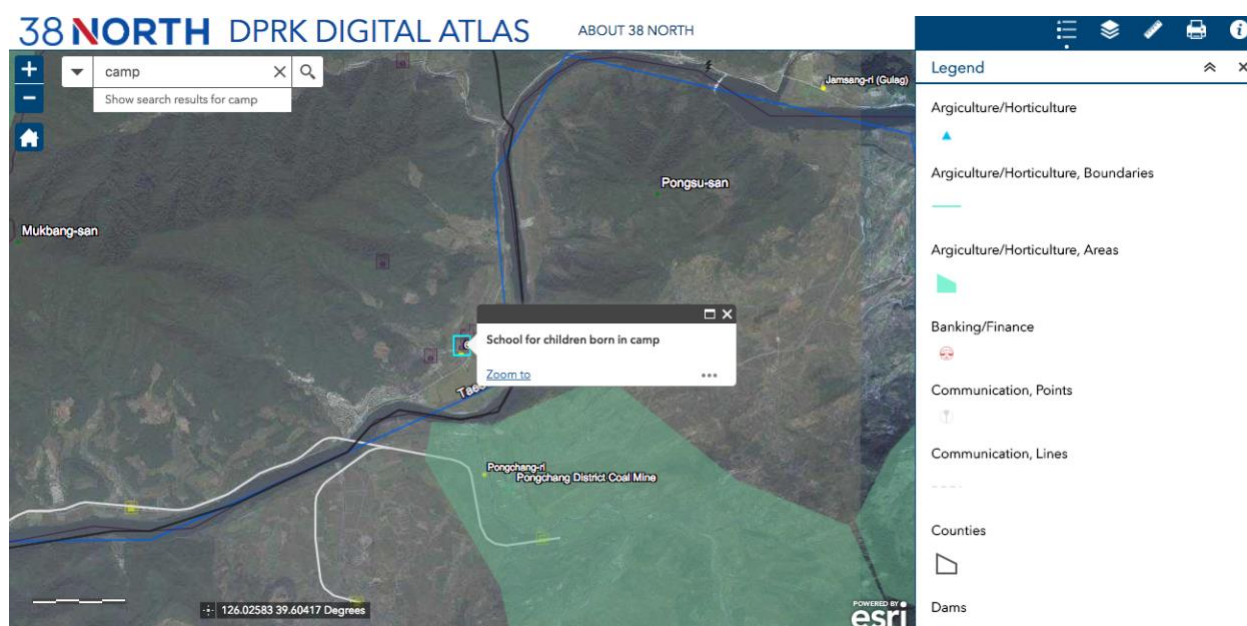
[Fig. 2. 38 North DPRK Digital Atlas, US-Korea Institute at Johns Hopkins SAIS, http://38northdigitalatlas.org/]

[Fig. 3. Curtis Melvin, "North Korea Uncovered (Google Earth)," *North Korean Economy Watch* http://www.nkeconwatch.com/north-korea-uncovered-google-earth/]

NOTES

1 110 Cong. Rec. S3498 (2008) (statement of Sen. Brownback).

2 110 Cong. Rec. S3498 (2008).

3 110 Cong. Rec. S3498 (2008).

4 Joshua Stanton, *One Free Korea*, Blog, http://freekorea.us/ (accessed October 22,

2018).

5 See Curtis Melvin, *North Korean Economy Watch*, Blog, http://www.nkeconwatch.com/

(accessed October 22, 2018); *38 North*, Blog, http://www.38north.org/ (accessed October 22,

2018).

6 See Ryan Moore, "North Korea Uncovered: The Crowd-Sourced Mapping of the World's Most Secret State," *Worlds Revealed: Geography & Maps at the Library of Congress*, Blog, February 9, 2016, https://blogs.loc.gov/maps/2016/02/north-korea-uncovered-the-crowd-sourced-mapping-of-the-worlds-most-secret-state/ (accessed October 22, 2018); Evan Ramstad, "Gulags, Nukes and a Water Slide: Citizen Spies Lift North Korea's Veil," *Wall Street Journal*, May 22, 2009, https://www.wsj.com/articles/SB124295017403345489 (accessed October 22, 2018); Joshua Stanton, "Holocaust Now: Looking Down into Hell at Camp 22," *One Free Korea*, Blog, November 27, 2008, http://freekorea.us/camps/22-2/#sthash.5wmkLQTV.dpbs (accessed October 22, 2018).

7 Jayanth Mysore, "Publishing More Detailed Maps of North Korea," *Google Maps*, Blog, January 28, 2013, https://maps.googleblog.com/2013/01/publishing-more-detailed-maps-of-north.html (accessed October 22, 2018).

8 On this notion of "digital humanitarianism," see especially Michal Givoni, "Between Micro Mappers and Missing Maps: Digital Humanitarianism and the Politics of Material Participation in Disaster Response," *Environment and Planning D: Society and Space* 34, no. 6 (2016): 1025-1043; Alfred Montoya, "Digital Relics of the Saints of Affliction: HIV/AIDS, Digital Images and the Neoliberalisation of Health Humanitarianism in Contemporary Vietnam," *Mortality* 20, no. 4 (2015): 334-350; Lisa Parks, "Digging into Google Earth: An Analysis of 'Crisis in Darfur,'" *Geoforum* 40, no. 4 (2009): 535-545.

9 Laura C. Mallonee, "What Happens When Everyone Makes Maps?," *The Atlantic*, July 16, 2013, https://www.theatlantic.com/technology/archive/2013/07/what-happens-when-everyone-makes-maps/277850/ (accessed October 22, 2018).

10 See especially Laura Kurgan, *Close Up at a Distance: Mapping, Technology, and Politics* (New York: Zone Books, 2013); Nishat Awan, "Digital Narratives and Witnessing: The Ethics of Engaging with Places at a Distance," *Geohumanities* 2, no. 2 (2016): 311-330; Martin Dodge and Rob Kitchin, "Crowdsourced Cartography: Mapping Experience and Knowledge," *Environment and Planning A: Economy and Space* 45, no. 1 (2013): 19-36; and Christine E. Dunn, "Participatory GIS—A People's GIS?," *Progress in Human Geography* 31, no. 5 (2007): 616-37.

11 See Timothy Barney, *Mapping the Cold War: Cartography and the Framing of America's International Power* (Chapel Hill: University of North Carolina Press, 2015).

12 An excellent recent debate on this is explored in the opening chapter of Robert Hariman and John Louis Lucaites, *The Public Image: Photography and Civic Spectatorship* (Chicago: University of Chicago Press, 2016).

13 Environmental Systems Research Institute, "Resolution," Esri GIS Dictionary, https://support.esri.com/en/other-resources/gis-dictionary/term/93528370-d4c9-4e45-9a7a-92c1fec3cc92 (accessed October 22, 2018).

14 See J. B. Harley, *The New Nature of Maps: Essays in the History of Cartography*, ed. Paul Laxton (Baltimore, MD: Johns Hopkins University Press, 2001).

15 Jeremy W. Crampton, *Mapping: A Critical Introduction to Cartography and GIS* (Malden, MA: Wiley-Blackwell, 2010); Denis Wood, *The Power of Maps* (New York: The Guilford Press, 1992); John Pickles, *A History of Spaces: Cartographic Reason, Mapping, and the Geo-Coded World* (New York: Routledge, 2004),

16 See Susan Schulten, *The Geographical Imagination in America, 1880-1950* (Chicago: University of Chicago Press, 2002).

17 Sebastien Caquard, "Cartography II: Collective Cartographies in the Social Media Era," *Progress in Human Geography* 38, no. 1 (2014): 146.

18 Craig M. Dalton, "Sovereigns, Spooks, and Hackers: An Early History of Google Geo Services and Map Mashups," *Cartographica* 48, no. 4 (2013): 262.

19 Kitchin and Dodge, "Crowdsourced Cartography." They cite from George Ritzer and Nathan Jurgenson, "Production, Consumption, Prosumption: The Nature of Capitalism in the Age of the Digital 'Prosumer'," *Journal of Consumer Culture* 10, no. 1 (2010): 13-36.

20 Kitchin and Dodge, "Crowdsourced Cartography," 35.

21 Jeremy W. Crampton, "Cartography: Maps 2.0," *Progress in Human Geography* 33, no. 1 (2009): 93. See also Jorgelina Sannazzaro, "Citizen Cartography, Strategies of Resistance to Established Knowledge and Collective Forms of Knowledge Building," *Public Understanding of Science* 25, no. 3 (2016): 349.

22 Kitchin and Dodge, "Crowdsourced Cartography," 35.

23 See Barney's concluding chapter in *Mapping the Cold War*, 215-228; and Amber Davisson, "Beyond the Borders of Red and Blue States: Google Maps as a Site of Rhetorical Invention in the 2008 Presidential Election," *Rhetoric & Public Affairs* 14, no. 1 (2011): 118.

24 Joshua P. Ewalt, "Mapping Injustice: The *World is Witness*, Place-Framing, and the Politics of Viewing on Google Earth," *Communication, Culture & Critique* 4, no. 4 (2011): 339.

25 Joshua Reeves, *Citizen Spies: The Long Rise of America's Surveillance Society* (New York: New York University Press, 2017); Marouf Hasian Jr., *Forensic Rhetorics and Satellite Surveillance: The Visualization of War Crimes and Human Rights Violations* (Lanham, MD: Lexington Books, 2016).

26 Roger Stahl, "Becoming Bombs: 3D Animated Satellite Imagery and the Weaponization of the Civic Eye," *Media Tropes* 2, no. 2 (2010): 82.

27 J.B. Harley, "Cartography, Ethics, and Social Theory," *Cartographica* 27, no. 2 (1990): 8.

28 Caren Kaplan, *Aerial Aftermaths: Wartime From Above* (Durham, NC: Duke University Press, 2018), 4.

29 Mitchell as cited in Kaplan, *Aerial Aftermaths*, 144.

30 Kaplan, *Aerial Aftermaths*, 144-45.

31 The best source on air-age global mapping remains Alan K. Henrikson, "The Map as an 'Idea': The Role of Cartographic Imagery During the Second World War," *American Cartographer* 2, no. 1 (1975): 19-53. See also Susan Schulten, "Richard Edes Harrison and the Challenge to American Cartography," *Imago Mundi* 50, no. 1 (1998): 174-88; Denis E. Cosgrove and Veronica della Dora, "Mapping Global War: Los Angeles, the Pacific, and Charles Owens's Pictorial Cartography," *Annals of the Association of American Geographers* 95, no. 2 (2005): 373-90.

32 Mary E. Stuckey, "FDR, the Rhetoric of Vision, and the Creation of a National Synoptic State," *Quarterly Journal of Speech* 98, no. 3 (2012): 297-319.

33 Franklin Delano Roosevelt, "Fighting Defeatism: February 23, 1942," in *FDR's Fireside Chats*, eds. Russell D. Buhite and David W. Levy (Norman: University of Oklahoma Press, 1992), 208.

34 Timothy Barney, ""'Gulag"—Slavery, Inc.': The Power of Place and the Rhetorical Life of a Cold War Map," *Rhetoric & Public Affairs* 16, no. 2 (2013): 317-53.

35 Susan L. Carruthers, *Cold War Captives: Imprisonment, Escape, and Brainwashing* (Berkeley: University of California Press, 2009), 101.

36 Barney, *Mapping the Cold War*, 115-116. See also: U.S. Department of State, "Security Council Rejects Soviet Complaint Against U.S. in RB-47 Incident," *Department of State Bulletin* August 15, 1960, 235-244; Adlai Stevenson, "UN Security Council Address on Soviet Missiles in Cuba, 25 October 1962," *American Rhetoric*, http://www.americanrhetoric.com/speeches/adlaistevensonunitednationscuba.html (accessed October 22, 2018).

37 John Cloud, "American Cartographic Transformations During the Cold War," *Cartography and Geographic Information Science* 29, no. 3 (2002): 261-82.

38 An excellent critical source on these developments comes from John Pickles, ed., *Ground Truth: The Social Implications of Geographic Information Systems* (New York: Guilford, 1995).

39 "Report by the Technological Capabilities Panel of the Science Advisory Committee, February 14, 1955," *Foreign Relations of the United States*, Vol. XIX, Office of the Historian, Department of State, https://history.state.gov/historicaldocuments/frus1955-57v19/d9 (accessed October 22, 2018). A few helpful secondary sources include Keith C. Clarke and John G. Cloud, "On the Origins of Analytical Cartography," *Cartography and Geographic Information Science* 27, no. 3 (2000): 195-204; John Cloud, "Hidden in Plain Sight: The CORONA Reconnaissance Satellite Programme and Clandestine Cold War Science," *Annals of Science* 58, no. 2 (2001): 203-9; and Dwayne A. Day, John M. Logsdon, and Brian Latell, eds., *Eye in the Sky: The Story of the Corona Spy Satellites* (Washington, D.C.: Smithsonian Institution Press, 1998).

40 Monica M. Brannon, "Standardized Spaces: Satellite Imagery in the Age of Big Data," *Configurations* 21, no. 3 (2013): 281-282.

41 Brannon, "Standardized Spaces," 288; 292-93.

42 Philip Wander, "The Rhetoric of American Foreign Policy," *Quarterly Journal of Speech* 70, no. 4 (1984): 349. And from a historical geographer's standpoint, the spatial perspective behind Cold War technocracy is best explored in Matthew Farish, *The Contours of America's Cold War* (Minneapolis: University of Minnesota Press, 2010). A good discussion of synoptic views of the Cold War can also be found in Stephen Bocking, "A Disciplined Geography: Aviation, Science, and the Cold War in Northern Canada, 1945-1960," *Technology & Culture* 50, no. 2 (2009): 265-290.

43 Orit Halpern, *Beautiful Data: A History of Vision and Reason Since 1945* (Durham, NC: Duke University Press, 2014), 16.

44 See Chapter Four of Barney, *Mapping the Cold War*, 136-169.

45 While not about North Korea per se, an excellent source on the geographic imagination of Cold War Asia is found in Christina Klein, *Cold War Orientalism: Asia in the Middlebrow Imagination*, *1945-1961* (Berkeley: University of California Press, 2003).

46 Christine Hong, "The Mirror of North Korean Human Rights: Technologies of Liberation, Technologies of War," *Critical Asian Studies* 45, no. 4 (2013): 570.

47 Stephen John Hartnett, "Google and the 'Twisted Cyber Spy' Affair: US-Chinese Communication in an Age of Globalization," *Quarterly Journal of Speech* 97, no. 4 (2011): 417-418.

48 Stahl, "Becoming Bombs," 85-86.

49 Stahl, "Becoming Bombs," 65, 81.

50 Kristin Bergtora Sandvik and Kjersti Lohne, "The Rise of the Humanitarian Drone: Giving Content to an Emerging Concept," *Millennium: Journal of International Studies* 43, no. 1 (2014): 157.

51 Once again, both Stahl and Hasian are at the forefront of the rhetorical interrogation of drones and visuality. See Roger Stahl, *Through the Crosshairs: War, Visual Culture, and the Weaponized Gaze* (New Brunswick, NJ: Rutgers University Press, 2018); and Marouf Hasian, Jr., *Drone Warfare and Lawfare in a Post-Heroic Age* (Tuscaloosa: University of Alabama Press, 2016).

52 John Larkin, "Exposed—Kim's Slave Camps," *Far Eastern Economic Review* 165, no. 49 (December 12, 2002): 14-18.

53 Larkin, "Exposed," 15.

54 Larkin's article, too, goes on to point out that the source of the photos comes from Digital Globe, an American commercial firm. Larkin, "Exposed," 15.

55 Larkin, "Exposed," 14.

56 David Hawk, *The Hidden Gulag: Exposing North Korea's Prison Camps*, First Edition, Report by the U.S. Committee for Human Rights in North Korea, 2003, https://www.hrnk.org/uploads/pdfs/The_Hidden_Gulag.pdf (accessed October 22, 2018).

57 David Hawk, *The Hidden Gulag: The Lives and Voices of "Those Who Are Sent to the Mountains," Exposing North Korea's Vast System of Lawless Imprisonment*, Second Edition, Report by the Committee for Human Rights in North Korea, 2012, 12, https://www.hrnk.org/uploads/pdfs/HRNK_HiddenGulag2_Web_5-18.pdf (accessed October 22, 2018).

58 Kitchin and Dodge, "Crowdsourced Cartography," 34.

59 *38 North DPRK Digital Atlas*, http://38northdigitalatlas.org/ (accessed October 22, 2018).

60 "News in Pictures: 'Gulag'—Slavery, Inc.," *Time*, September 17, 1951, 28-29.

61 Hong, "The Mirror of North Korean Human Rights," 576.

62 Curtis Melvin, "North Korea Uncovered (Google Earth)," *North Korean Economy Watch*, Blog, http://www.nkeconwatch.com/north-korea-uncovered-google-earth/ (accessed April 5, 2018).

63 Benjamin H. Bratton, "On Geoscapes and the Google Caliphate: Reflections on the Mumbai Attacks," *Theory, Culture & Society* 26, no. 7-8 (2009): 335.

64 Chris Perkins and Martin Dodge, "Satellite Imagery and the Spectacle of Secret Spaces," *Geoforum* 40, no. 4 (2009): 547.

65 Bratton, "On Geoscapes," 335.

66 Brannon, "Standardized Spaces," 278.

67 Jason Farman, "Mapping the Digital Empire: Google Earth and the Process of Postmodern Cartography," *New Media & Society* 12, no. 6 (2010): 875.

68 Sybille Lammes, "Digital Mapping Interfaces: From Immutable Mobiles to Mutable Images," *New Media & Society* 19, no. 7 (2017): 1025.

69 Eric Gordon, "Mapping Digital Networks: From Cyberspace to Google," *Information, Communication & Society* 10, no. 6 (2007): 893-94.

70 Jeremy W. Crampton, "Keyhole, Google Earth, and 3D Worlds: An Interview of Avi Bar-Zeev," *Cartographica* 43, no. 2 (2008): 88-89.

71 Brannon, "Standardized Spaces," 282.

72 See especially Schulten, *The Geographical Imagination in America*, 148-75.

73 Jerry Brotton, *A History of the World in Twelve Maps* (New York: Viking Penguin, 2012), 436.

74 Jean H. Lee, "Google Executive Chairman Arrives in North Korea," *San Diego Union-Tribune*, January 7, 2013, http://www.sandiegouniontribune.com/sdut-google-executive-chairman-arrives-in-north-korea-2013jan07-story.html (accessed October 22, 2018); Andrew Jacobs, "Visit By Google Chairman May Benefit North Korea," *The New York Times*, January 10, 2013, http://www.nytimes.com/2013/01/11/world/asia/eric-schmidt-bill-richardson-north-korea.html?mcubz=3 (accessed October 22, 2018).

75 Lee, "Google Executive Chairman."

76 Lee, "Google Executive Chairman."

77 Jacobs, "Visit By Google Chairman."

78 Bruce Einhorn, "In India, Google's Eric Schmidt Explains Why He Went to North Korea," March 21, 2013, *Bloomberg*, March 21, 2013 https://www.bloomberg.com/news/articles/2013-03-21/in-india-googles-eric-schmidt-explains-why-he-went-to-north-korea (accessed October 22, 2018).

79 See Courtney Brooks, "Mapping North Korea's Brutal Labor Camps," *World Affairs Journal*, http://www.worldaffairsjournal.org/article/mapping-north-korea%E2%80%99s-brutal-labor-camps (accessed October 22, 2018); Julian Ryall, "Google Earth Exposes North Korea's Secret Prison Camps," *Telegraph*, January 25, 2013, http://www.telegraph.co.uk/news/worldnews/asia/northkorea/9826125/Google-Earth-exposes-North-Koreas-secret-prison-camps.html (accessed October 22, 2018); Shaunacy Ferro, "Google Taps 'Citizen Cartographers' to Map North Korea," *Popular Science,* January 30, 2013,

http://www.popsci.com/technology/article/2013-01/citizen-cartographers-filled-north-korea-google-maps (accessed October 22, 2018).

80 Mysore, "Publishing More Detailed Maps of North Korea."

81 Mysore, "Publishing More Detailed Maps of North Korea."

82 Brotton's chapter on Google Earth is especially helpful on this point. See Brotton, *A History of the World in Twelve Maps*, 405-436.

83 Lindsay Palmer, "Ushahidi at the *Google* Interface: Critiquing the 'Geospatial Visualization of Testimony'," *Continuum: Journal of Media & Cultural Studies* 28, no. 3 (2014): 347.

84 Sangeet Kumar, "Google Earth and the Nation State: Sovereignty in the Age of New Media," *Global Media and Communication* 6, no. 2 (2010): 155.

85 Kumar, "Google Earth and the Nation State," 171.

86 Juan Jose Valdes, "Sizing Up Google's New North Korea Map," *National Geographic News*, January 31, 2013, http://news.nationalgeographic.com/news/2013/13/130131-world-google-maps-north-korea-cartography/ (accessed October 22, 2018).

87 Valdes, "Sizing Up Google's New North Korea Map."

88 Glenn Thrush and Peter Baker, "Trump's Threat to North Korea Was Improvised," August 9, 2017, *The New York Times*, https://www.nytimes.com/2017/08/09/us/politics/trump-north-korea.html?mcubz=3&_r=0 (accessed October 22, 2018).

89 Krishnadev Calamur, "Did North Korea Just Inch Closer to the 'Red Line'?," *The Atlantic*, August 8, 2017, https://www.theatlantic.com/international/archive/2017/08/north-korea-nuclear/536235/?utm_source=atlfb (accessed October 22, 2018).

90 For more on the tension in geographic studies on sights and sites, see Gearoid Ó

Tuathail, *Critical Geopolitics*, 53; David Campbell, "Geopolitics and Visuality: Sighting the

Darfur Conflict," *Political Geography* 26, no. 4 (2007): 361.

91 This contentious history is explored well in Michael Barnett, *Empire of Humanity: A

History of Humanitarianism* (Ithaca, NY: Cornell University Press, 2011).

92 Andrew Herscher, "Surveillant Witnessing: Satellite Imagery and the Visual Politics of

Human Rights," *Public Culture* 26, no. 3 (2014): 478.

93 A review of these issues can be found in Dodge and Kitchin, "Crowdsourced

Cartography."

94 Kaplan, *Aerial Aftermaths*, 14-15.