

## The Highlights - Cleaning Magritte's Pipe

"The desert is the only thing that can be destroyed by construction."

-Boris Vian

My first memory of drawing a map was more coloring-in an outline of the Mercator projection handed (1) out to our sixth grade class while Mr. Tohanna, who taught both geography and art, left the room. It seemed to me a childish exercise, akin to coloring books for toddlers; however, when Tohanna returned, I was scolded for the mutinous purple teeming from my map's oceans. The experience left its mark, because I have since associated it with discovering that some dark blues are actually purple, and I am colorblind. Geography was not my best subject in school - I was happy to grow up in Canada, where we only had to learn the alignment of ten provinces and two territories (2) - and my interest in cartography grew only from recent travels through Europe's more walkable cities.

But first, allow me to take you to San Francisco, where the couple who hosted me last August grew increasingly distraught when circling key locations on a city map and discovering certain points were not in their expected place - though the map adhered to rational mathematics. They apologized for the mess sprawled out before us on their kitchen table, and my host explained that she mistook it for another printed map of the city when purchasing it. They even went as far as to call the map "stupid," and when her partner suggested I look at the maps on various bus stops to see a more intelligent layout of the city, she defended that these were the maps she was familiar with. They were better.

On a recent flight to Paris, I was struck by an article I read in *Harper's* (November 2007) by Mischa Berlinski about a Hindu woman marrying a snake in the east Indian state of Orissa. His questioning of the authenticity of the union had more to do with the lack of appearance on behalf of the snake than the credence of the community's ophiolatry. In his *Histories*, Herodotus recounts the story of an Egyptian woman having sexual intercourse with a goat to show how the ancient Egyptians did not differentiate between the real and the symbolic - it was the ancient Greeks who poeticized gods and animals - but chose, instead, to distinguish between the visible and invisible.

Within the pages of Maxim Gorky's Russia, in *The Lower Depths*, the danger of confusing the real/symbolic with the visible/invisible is fleshed out in the character Luka:

"Do me a favor - show me where is the land of righteousness and how I can get there." At once the learned man opened his books, spread out his maps,

and looked and looked and he said - no - he couldn't find this land anywhere... everything was correct - all the lands on earth were marked-but not this land of righteousness. The man wouldn't believe it... "It must exist," he said, "look carefully. Otherwise," he says, "your books and maps are of no use if there's no land of righteousness." The learned man was offended. "My plans," he said, "are correct. But there exists no land of righteousness anywhere." Well, then the other man got angry. He'd lived and lived and suffered and suffered, and had believed all the time in the existence of this land - and now, according to the plans, it didn't exist at all. He felt robbed! And he said to the learned man: "Ah - you scum of the earth! You're not a learned man at all-but just a damned cheat!" - and he gave him a good wallop in the eye - then another one... [After a moment's silence.] And then he went home and hanged himself. (3)

At a 1931 meeting of the American Mathematical Society, Alfred Korzybski coined the phrase "the map is not the territory" (4) to differentiate between a metaphorical representation of a concept and the concept itself. To Korzybski, who was not a cartographer, the map was the best example of our social confusion. Two years earlier, the Belgian surrealist René Magritte addressed a similar criticism of the interpreter's blunder between image and object with his painting *The Treachery Of Images* (*La trahison des images*), which famously depicted a pipe and the inscription *Ceci n'est pas une pipe* (*this is not a pipe*).

The connection between map and art dates back to our first known map (around 7500 BCE) - a mural of a village displayed amongst several other wall paintings and sculptures in the ancient Turkish city of Çatalhöyük - which is also considered to be the first landscape painting. Though cartographers are more often grouped with geographers than artists, opening today's better atlases will reveal a carefully decorated aesthetic to eyes in search of one. A personal favorite is the relief shading of Eduard Imhof, former professor of cartography at the Swiss Federal Institute of Technology in Zurich. To examine his craftsmanship is not only to recognize a practical innovation, but a kind of blissful carrying away in its beauty and artistic precision. In works like his relief shading for the Swiss canton Aargau on school maps, Imhof composes independent elements of pencil, ink, and white paint into an astounding unified whole. In his amazingly detailed maps of Swiss mountains - often beginning as watercolors before being transferred to lithographs - it is difficult to separate Imhof the cartographer from Imhof the painter and avid mountaineer.

In an episode of the children's show *Barney & Friends* titled 'The Treasure of Rainbow Beard,' Kathy asks, "What's a treasure map?" and Derek responds, "It's pictures and words that tell you how to find something really special." At some point, cartography shifted from a purely visual medium to one associating images with text. That first landscape painting in

ancient Turkey significantly predates the written word, but it is worth noting that the first known map of the Turkic people can be found in the first dictionary of Turkic languages (circa 1072).

In his 1975 essay *Pendulum's Song*, Joseph Brodsky attests, "language is not a tool of cognition but one of assimilation." According to Samuel I. Hayakawa, who applied Korzybski's dictum to language, a flawed map could create devastating conflicts of communication that might isolate its percipient from the world; whereas if a child's *verbal world* corresponds more closely to the *extensional world* he will be better prepared for human experience and will be in less danger of being damaged by it. In his autobiographical account of finding himself a young man in Paris, twentieth century Viennese writer Stefan Zweig beautifully expresses the peripeteia of a tourist's ecstasy when lifting his nose from the map's page and recognizing the city around him:

I was intellectually familiar in advance with everything in Paris through the descriptive and almost plastic rendering of its poets, its novelists, its historians, and its writers on modes and manners, before I had seen it with my own eyes. It was merely brought to life by coming face to face with it; and seeing it physically was really nothing but a recognition, that delight of the Greek *anagnorismos* which Aristotle lauds as the greatest and most mysterious of all artistic satisfactions. (5)

From most metropolitans, metaphors have grown-Paris is *the city of love*, Jerusalem is *the holy city*, Rome is *the eternal city*-and the city itself is a human construct, making a city map a model of a model.

When I lived on 13th Street, close to Manhattan's Union Square, I often passed the chic brownstone that was the scummy bordello in Martin Scorsese's *Taxi Driver*. The neighborhood, torn up by a newly opened Whole Foods and bleeding with NYU student housing, was quite different when I resided there from its 1970s cross-breed of pimp and junky. My New York was very much shaped by the late 1970s New York I borrowed from Scorsese and Sidney Lumet, even Woody Allen's take on the city in the 1980s. Skulking off 13th Street to Bernard Herrmann's *Taxi Driver* theme, I'd shift to a swagger as Quincy Jones's jazz score took me past the Starbucks and Barnes and Nobles that had replaced the once abundant pawnshops lining 3rd Avenue, until a Gershwin tune bubbled my innards to a jolt and dropped me off in front of the former Beakon Theatre. Husserl surmised that one has a proper direct presentation when standing in front of a house and an improper, indirect presentation when given directions for that house; but what if one is standing inside the house - or inside the directions?

I think cartography partly emerged with, or due to, domestication-as both a garnish on a fixed location and a practical tool to help hunters remember how to return to the village. Marking one's memory can be much like drawing a map. As an example, take St. Augustine's description of memory in his *Confessions*:

Memory's huge cavern, with its mysterious secret, and indescribable nooks and crannies, receives all these perceptions, to be recalled when needed and reconsidered. Every one of them enters into memory, each by its own gate, and is put on deposit there. The objects themselves do not enter, but the images of the perceived objects are available to the thought recalling them. (6)

Later, St. Augustine continues,

This is how I remember Carthage, and the places where I have been, the faces of people I have seen, and information derived from the other senses. That is how I know of the healthy or painful condition of my body. When these things were present, memory took images of them, images which I could contemplate when they were present and reconsider in mind when I recollected them even though absent from me. (7)

He aligns Carthage with the internal state of his own being, creating a transcendent pathway through his senses to his memory. His personal memory and the historical recollection of Carthage are unified in the form of images held in the demiurgic storehouse.

Like memory, a map is simultaneously a link to our past and an active gaze of the present. The Indians of Mesoamerica mapped journeys of previous generations to assist in the telling of narrative stories that recreated their historical past and formed a collective memory. In the 17th Century, cartographer, engraver, and map collector Herman Moll sold maps from his London bookshop for both the British Empire's realistic demarcations and the fictional lands born from Daniel Defoe's *Robinson Crusoe* and Jonathan Swift's *Gulliver's Travels*. The artifice of the real and the fictional did not vary all that much, as they were drafted by the same cartographer. In his essay on the renaming of Leningrad/St. Petersburg, Brodsky helped reveal the *brouiller les cartes* of the modern city in its physical and literary manifestation:

Toward the middle of the nineteenth century, these two things merged:

Russian literature caught up with reality to the extent that today when you think of St. Petersburg you can't distinguish the fictional from the real. Which is rather odd for a place only two hundred and seventy-six years old. The guide will show you today the building of the Third Section of the police, where Dostoevsky was tried, as well as the house where his character Raskolnikov killed that old money-lending woman with an ax. (8)

St. Petersburg, like Venice, is a city that embodies our manufacturing impulses. This, the most European city in Russia, built by Peter the Great to present itself as an open gate on the Baltic Sea, is a synthetic seaport laying on lowlands and swamps to remake a Russia defined by its land-locked mass. The island of human existence has drifted a long way from Eden, and if we map Venice and St. Petersburg, why not map the Great Pacific Garbage Patch (9) or the Styrofoam islands in Ha Long Bay, on which Vietnamese fishermen reportedly reside?

In his account of King Phoron's loss of sight after attempting to overpower with a spear a Nile that had "swollen to the unusual height of eighteen cubits," Herodotus uses his native Greek units to measure Egypt - even though he acknowledges that the Egyptian measurements are superior. With the Nile's constant change in water levels, both the land and water become something immeasurable - or, at least, inconsistently measurable - and it is understandable that the ancient Greeks, a culture defined and preserved by their establishment of secure structures, would have flawed tools for a cartographic rendering of ancient Egypt. This historical telling reveals the Nile as protector of the ancient Egyptian way of life from the invading Greeks. Herodotus understands Egypt as the place where the Egyptians are, but the Egyptians understand themselves in terms of the Nile. Egypt is a place where land and water merge to silt, and the Nile becomes both a source of stability and fluidity. This dialectic of rest and motion is well realized in a land that is flooded with water for half the year - or by the only river to flood in summer. As Herodotus' account is the first known history, much of it relies on the memory of the Egyptians. Since Egypt, we have linguistically allied memory with land, and forgetfulness with water. We speak of the "open plains of memory" or its "deep caves" and "narrow passages." A superior memory is "solid" or even "like a rock." However, when discussing forgetfulness, we poetically mention "murky waters" and the verb often becomes wet - "It slipped my mind." Historically, we have mapped water by studying the stars, which might attribute to expressions like, "I spaced out" or memories that are "cloudy."

In a letter dated June 24, 1920, Rilke tells of the maps he was shown marking the various bombed locations in Venice. He writes: "Venice doesn't stand still, it's true, but it survives backwards like a reflected image, only some obvious devastation could date it." (10) Venice, an archipelago city created by Roman refugees fleeing floods of barbarian invasions, connects 118 small islands in a marshy lagoon beside the Adriatic Sea. The sinking city

regularly overflows, and water has destroyed much of its surface level, history, and beauty. The Venetian solution has traditionally been to move towards the sky, into apartments on upper floors. If Rem Koolhaas is correct in his description of the privatization of the modern city as a contained structure of upward growth rather than free movement circulating the core, how can maps accustomed to cities sprawling outwards be altered to cities sprawling upwards?

When I was in San Francisco, I denoted the 'flawed' map on the kitchen table with circles and 'X's over the locations of a city tour based on Alfred Hitchcock's *Vertigo*. My plan was to hit all the destinations via bicycle until a seemingly obvious fact was pointed out to me: San Francisco is a city with a lot of hills. Venturing off by foot, my maneuvering was very much defined by the shifting terrain. The fixed chassis of tarmac over sloping sands fascinated me enough to search online for some older topographical maps of the city. I found a tawny 1873 map depicting some inclines in webbing swirls beneath elegant cursive and a 1907 chartreuse city map with block letters indicating neither molehill nor mountain. What had changed in the way San Francisco's gradient came to be communicated in map form?

Both Imhof's relief shading and Brodsky's writing reveal their very different ways of looking at altitude and attempting what Edward Tufte calls "escaping flatland." More than a conformist's contours, their illustrations of mountainous space can be likened to soulful cries seeking to ascend the paper they've been drafted on. Brodsky writes:

In the mountains, move slowly. If you must creep, then creep.  
Magnificent in the distance, meaningless closer up,  
mountains are but a surface standing on end. The snail-  
like and, it seems, horizontal meandering trail  
is, in fact, vertical. Standing up, you lie flat. Which suggests our true  
freedom's in falling down. That's the way, it appears,  
to conquer, once in the mountains, vertigo, raptures, fears. (11)

To Brodsky, a shift in proximity is a shift in perspective, and an attempt to look at space differently can be revolutionary and freeing in itself.

Waldo Tobler, Professor Emeritus of Geography at the University of California Santa Barbara, claims the Earth's surface to be two-dimensional and, therefore, preserved when drawing up a map. For him, the 'Map Projection Problem' is a matter of flattening terrain that includes curved, closed, and bumpy two-dimensional surfaces. (12) Rather than describing the space visually, he uses trilateration (13) to specify location. Ironically, his most comprehensible presentation of the problem concerning a visual understanding of space

and location emerges in an ingenious visual example that personalizes the experience for a percipient:

Conformality is perhaps best visualized by imagining that you are looking at a globe through a microscope on wheels. These wheels are connected to the magnification system. Every time you move the microscope on the globe the wheels force the magnification to change slightly. Everything looks perfectly fine except that the scale is different everywhere, and you can only see a little piece at a time. The latter property suggests local shape invariance and that local angles are preserved. (14)

In his *Confessions*, St. Augustine describes the inaccuracy of communicating space architecturally: "I have seen the lines drawn by architects. They are extremely thin, like a spider's web. But in pure mathematics lines are quite different. They are not images of the lines about which my bodily eye informs me. A person knows them without any thought of a physical line of some kind; he knows them within himself." (15) For St. Augustine the purity of soul is intertwined with the purity of mathematics, and "[o]ur rationalization efforts, whatever they may be, will inevitably drown in the infinitude of the irrational." (16)

Like a memoir or a letter, a map seeks to disguise *truth* in a restrictive form that some percipients misinterpret as unmediated. The memoir and letter, however, more often succeed in allowing the self to swallow some of the limitations of reason - be it a geographer's prostration to space or an historian's to time. For a humorous example, take a look at this excerpt from Samuel Johnson's 1762 letter to Joseph Barette:

Last winter I went down to my native town, where I found the streets much narrower and shorter than I thought I had left them, inhabited by a new race of people, to whom I was very little known. My playfellows were grown old, and forced me to suspect that I was no longer young. (17)

Samuel Johnson plays with the realization that it is not always clear if the world is changing or if we are. One of the best visual acknowledgements of personalized space that I can think of is the famous *New Yorker* cover depicting a map of the world from a New Yorker's self-aggrandized perspective.

Overlooking Manhattan and Newark from a manicured patio concealing the hot tar of a Brooklyn roof a couple of summers ago, I thought it difficult - with the World Trade Centre

gone-to decipher between the two city skylines. The realization that I had been living in an anachronism hit me; the mean streets tracing the filmic myth of the city I had hoped to find were now presenting themselves quite differently: *The Devil Wears Prada*. In concurrence with the aforementioned *New Yorker* cover, the change I noticed in Manhattan was a change I felt encompassing the entirety of western civilization.

I am currently residing in the sub-Saharan country Cameroon. Last week I met an anthropologist, who is also an artist and collector of maps - he has a long white beard. When I asked him if the natives who lived here before colonization had anything resembling maps of their own, he laughed at me and exclaimed, "We didn't have schools!" In hindsight, I wondered why he assumed that a people must have schools before maps. Didn't it work the other way around? Didn't schools follow the murals in Catalhoyuk's caves? Not here.

My earliest recollection of developing the tools needed to chart location and direction places me in my father's car, following the public bus to and from school on an autumn Sunday afternoon while listening to soft suggestions of familiar landmarks to note on the way there and dodging excited points in their direction on our return. When I started to make the trip on my own and the bus was too crowded for me to see the visual markers outside the windows, there were cultural indicators interior along the same route - if the straphangers around me were Catholic schoolchildren in uniform, I still had time before my stop; if the Jewish-looking kids were gone and the long lingering scent of spicy roti and Jamaican reggae hushed by headphones were all that remained between me and the back doors, I had probably missed my stop. Both the exterior space and the life within had transcended the relative physical permanence of the bus.

(1) Conceived in 1569 by Flemish geographer/ cartographer Gerardus Mercator for nautical purposes, this world map projection distorted the layout of the Earth's surface - for example, Africa is approximately fourteen times the landmass of Greenland, but Mercator portrays them as relatively equal in size.

(2) This was before maps demarcated Nunavut as Canada's third territory.

(3) English translation by Laurence Irving (1912).

(4) Later published in his *Science and Sanity* (1933).

(5) Stefan Zweig, *The World of Yesterday* (New York: Viking Press, 1943), p. 133-34.

(6) Saint Augustine, *Confessions* (x.viii-x.ix), translated by Henry Chadwick, (Oxford: Oxford University Press, p.186.

(7) Saint Augustine, *Confessions* (X.xvi-X.xix), p.194.

(8) Joseph Brodsky from his essay "A Guide to a Renamed City," in *Less Than One - Selected Essays* (New York: Farrar Straus Giroux, 1986), p. 80.

(9) A debris island twice the size of Texas, consisting of about 80% non-biodegradable plastic, located in the stationary middle of the North Pacific Gyre.

- (10) Rainer Maria Rilke, *Selected Letters of Rainer Maria Rilke*, ed. Harry T. Moore (New York Doubleday Anchor, 1960), p. 236.
- (11) From Joseph Brodsky, "Advice to a Traveller," 1989, originally appeared in the *Times Literary Supplement*, Farrar, Straus and Giroux Incorporated, translated from the Russian by the author and George L. Kline.
- (12) tobler@geog.ucsb.edu
- (13) A method of surveying to determine the relative positions of three or more points by treating these points as vertices of a triangle or triangles of which the angles and sides can be measured.
- (14) Waldo Tobler, *An Introduction Lecture on Geographic Location and Map Projections*, from his website.
- (15) Saint Augustine, *Confessions*, X.xii-X.xiv, p. 190.
- (16) Cartographer and geographer Jacques Bretin in an interview with Juan C. Dursteler in *InfoVis.net* digital magazine.
- (17) *The American Scholar*, Autumn 2007, collected by Anne Matthews.