

Where Am I? Reflections on a Geographic Graduate Education

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Jogging at dusk through deeply shadowed woods along a creek, I find time to reflect back on four years of graduate work in applied geography. I want there to be a golden nugget of wisdom of what it was all about and what I have learned. Can my experiences be summarized, distilled, and reduced into something succinctly essential, marketable and teachable? How have I changed from that lost and day-dreamy student who four years ago walked out on a monotone tax accounting professor, and an entire accounting graduate program, nervously into a building with map-lined brick walls?

I had some notions from a college dorm mate that GIS was a good way to make money. I had always enjoyed Geography, even participating in the National Geography Bee when I was eleven. Back then I must have wondered where I would fit in. Where would my place be? I was well read, inquisitive, but comparatively poorly traveled. I was born in California, grew up along the Front Range in Loveland Colorado, and reside in central Texas. My life's journeys had led me through all of the southwestern United States, and other than a brief Army station at Ft. Benning Georgia, my travels east consisted of a few road trips to visit my father in Fort Myers Florida. The south seemed one big region of piney woods, broken only by lazy muddy rivers, nothing like the physical contrasts of unbroken plains running headlong into tall mountains in Colorado. My international place knowledge was very limited, and consisted of

National Geographic Magazines, Public Television, and the internet. My family never had the time or money to travel.

The Brushy Creek Regional Trail where I jog runs 6.75 miles east-west and links the suburban cities of Round Rock and Ceder Park together. Both of these suburban centers, located in Williamson County, are adjacent to and immediately north of Austin Texas and have participated in the latter's rapid northward expansion. Williamson County has experienced a phenomenal population growth increase of 63 percent between 2000 and 2010. This growth has come with an environmental price tag. The demand for water will soon exceed the supply. The Austin MSA's water comes from a series of highland lakes built in the limestone hills north and west of the city, and from the resources of the Edward's Aquifer. This same aquifer is San Antonio's sole source of water.

Water resource scarcity is a strangely ironic concept considering the trail that I am running on was badly damaged in a flood when tropical storm Hermine dropped between 6 and 12 inches of rain in the predawn hours of September 8th, 2010. These "rain bombs" as they are sometimes locally known, are locally infrequent but regionally common. Central Texas is known for its seasonal precipitation variability and unforgiving rapid flash floods. In fact, many of the streams in the area are ephemeral, flowing only when it rains. As I run down the trail, there are many spots where sections of trail are washed out, giant oak trees lie overturned with exposed root balls. Debris is strewn about, even up in the trees-place signs of the power of water. Boulders are strewn about, tossed by unimaginable force, and there

are mini-canyons carved along the roadside, washing out sections of asphalt. Eighty homes were damaged, and the physical landscape was changed overnight-all place signs of the power of water.

My first encounter with 'academic' college Geography was a culture and population geography elective taken while pursuing my undergraduate degree in business. I don't remember much of the class, other than it was in an auditorium and the popular professor would play Gordon Lightfoot's "The Wreck of the Edmund Fitzgerald" before class. I can still hear its repetitive unforgettable riff. There was also one uncomfortable ethical conundrum that the professor presented to the class that has remained with me. He wondered if sending food to starving populations in African nations helped keep unsustainable population numbers alive. Would it be better, he questioned, to allow the population to decrease to a sustainable level, given their arid environment and limited agriculture possibilities? In other words, let people starve to death. This was my first encounter with the notion of environmental determinism, something I would later learn in graduate schools is considered largely discredited in the world of academic geography.

Sometimes I find academic geography perplexing. The current environmental mantra of sustainability, along with the neo-Malthusian dire consequences of its antithesis, make me wonder if environmental determinism, though politically incorrect, is correct on some scales. Globally, it makes sense that if we destroy the earth environment, we destroy ourselves, or at least vastly limit our outcomes. It seems that culture and the

environment is interdependent. Locally, what will happen when demand for water exceeds supply? We plan better for rapid disasters than slow rate ones, like climate change. We know what to do when the rain won't stop, "turn around, don't drown," but not what to do when it ceases.

Unlike China, my regions powers and authorities are not building many new dams, and nature is not constructing new aquifers for us. There is plenty of talk of desalinization, reduced consumption, and regional cooperation, but with little action or political authority to do so. Will our growth and outcome be checked by resource scarcity? It is hard to imagine it will not. Just like with congestion on our overburdened and inadequate transportation grid, anyone who reads the local papers or who has ever played SimCity could understand that we are growing unsustainably. If I am to sum up my geographic education, find the epiphany, it must be deeper than merely recognizing what is clearly evident around me-or is it?

Overhead, two great egrets descend towards the far side of the wooded creek bank. The yellow glow in the west ahead is fading, and so is the deep azure above to purple. I run without a light, and soon I must turn back to avoid unwanted collisions with cyclists, joggers, or tripping on roots and stones. As I run into the dimming western glow, I have a Zen-like moment and wonder if perhaps my education can be summed up by functional spaces, central places, core-peripheries, gravity models or knowledge of some other law-like statements or theories. Perhaps I was exposed to some incredibly useful esoteric knowledge, a foundation law on which to

build a tower of geographic understanding. Something central comes to mind.

I am taken back to a survey course on geographic methods and perspective. Different professors presented each week, and the introductory graduate course was pejoratively known as ‘dog and pony.’ I remember a GIS professor asking the auditorium-sized class to define the first law of geography. There was a long silence, some incredulous glances from the professor up front, students looking down at their notes and hoping not to be noticed. I was sitting near the front, especially hoping not to be noticed, because the petitioner up front was my advisor. The class was a requirement, and seats fill up fast during registration. I was not able to get in until my second-to-last semester. To emphasize the point, the professor added that you should not graduate from this department without knowing this. The pressure was really on! My advisor had recognized me and likely assumed that I knew the answer by then. Luckily for me, she wanted one of the newer students to answer.

A long minute ensued, after which a student from somewhere behind me quietly muttered "Tobler's Law." My advisor, encouraged, inquired "What's that?" After another long minute, a different student, emboldened by my advisors tacit recognition that Tobler's First Law of Geography (TFL) was the correct answer, offered the correct definition: "Everything is related to everything else, and near things are more related than far things."

Even then I thought to myself “aha!” This is great. Something other than the cliché word “spatial” on which to coalesce my understanding and hang my geographic spurs.

Excited at the prospect of a universal truth, I went back home and began to research TFL. I traced it back to a 1970 paper called “A Computer Movie Simulating Urban Growth in the Detroit Region.” Here were some provocative notions of explaining complex processes with simple law-like statements. However, from my first encounter with TFL, something bothered me. It is far more common finding papers advocating than criticizing TFL. Spatial dependence is analogous to a historian advocating temporal dependence, saying that more recent events are more related to now than more distant events. This seems wrong when one considers the origins of our current democratic or republic political system, whichever you prefer, or more related to classical Greco and Roman political philosophy than to what was happening in Feudal Europe 900 years ago.

Growing up in Loveland Colorado, I had many fortunate opportunities to go hiking and mountain climbing. As anyone who has done this knows, the alpine above-timberline (10,000 foot mark) environment is very similar from mountain top to mountain top. The view and location varies, but the lichens, short tundra vegetation, highly adapted animals, glacial processes, and igneous volcanic rocks are very similar on these isolated islands in the sky. Pikas are small furry rabbit-like and delightful rodents that let out a shrill call when they see people or perceived predators. They can be seen scurrying about the strewn rocks above 9000 feet in elevation collecting flowers and plants during the very short growing season in preparation for the long winter. Though separated, Pikas on Longs Peak are the same species as on Pikes Peak. These animals are

over 100 miles apart, and do not live down in the mountain valleys that separate these towering 14,000 foot-plus peaks.

The alpine environment on top of the peaks, though separated by great distance, is much the same and more similar than the moraine environment just a few miles away thousands of feet downslope. Later in my personal geographic research into social justice and food insecurity, I would come to understand that disadvantaged populations in census tracts in Austin have more in common with disadvantaged populations in census tracts in Houston than with high-income tracts just a few miles away. Just as Koppen understood with climate classification, and Merriam did with biotic classification and any other taxonomy of place, different locations can be understood as one place. In fact maps, our understanding of the world, and human predictive capabilities are built on just such a notion.

A place, a meaningful space as my friend David Parr defines it, contains an infinite number of points. Therefore all meaningful spaces exist in multiple locations independent of scale. Geography has to be built on something more substantial than 'near' and 'far' and 'spatial dependence.' Otherwise, mathematicians would make the best geographers. I cannot accept this, perhaps because I am bad at math, and perhaps because I believe in the ability of the world's most powerful computers, human brains, to perform interdisciplinary synthesis and discover complex relationships and linkages in ways beyond mere quantitative methods. We are a science and a liberal art.

The shadows by now were so dark, that entire sections of the trail were lost in

black beneath my feet. The west was now a blue glow, and the first winter stars were appearing overhead between the trees. It was time to turn back. I am not the athletic person that I used to be. My feet hurt, my legs get tired, and my brain was probably using more calories than my body had on the run. Nevertheless, I felt emboldened. Here was an idea that seemed unique. Geography was both an art and a science, something more creative than physics, and something less abstract than philosophy. Here was a discipline free enough to allow for infinite capacity and possibilities in finite space, while providing methods so useful as to discover where and why things on earth are.

Running at night on the trail behind my house is ill-advised. It is tunnel-like and dark. It runs right up next to Hairy Man Road in places, separated by only a guardrail. The light from cars creates weird destabilizing shadows moving around you at 40 miles per hour. Once, I narrowly avoided getting hit by a deer that had been flung across the trail following an almost certain fatal impact with a car. The underbrush is so dense around the trail that I was not able to find the deer. Vehicle impacts with deer are a common occurrence in my neighborhood. Occasional cougar sightings aside, the absence of big predators combined with ample feeding opportunities from yards and landscaping has lead to an overabundance of deer. They are everywhere in central Texas. The human-natural interface has always been one of my interests as a geography student. It is one of geographies four traditions along with physical, regional, and location geography. My particular geographic specialization is in urban and regional planning. It is because of

subdivision and development regulations and regional cooperation that we have dedications of land for parks and greenbelts for hiking and biking. Non-of-which brings me closer to my objective-a concise summation of my education.

Perhaps I am a product or victim of the state of geographic understanding in this country. It is a common thread for writers in our journals to bemoan the geographic illiteracy of Americans. I take a somewhat critical or radical stance on geographic illiteracy, and feel that geographers, not politicians or social studies advocates are to blame. I think the problem lies in our own inability to achieve consensus towards defining geography in a meaningful way regardless of one's background and in summing up its importance in relevant ways-geography in laymen's terms. Children should be able to understand geography and its importance regardless of background. We should be able to communicate geography.

The sad reality that we are constantly bombarded with research statistics telling us how few American's can find places on a map, or amazingly, how few children can even locate the U.S., Canada, Mexico, China and the Pacific ocean on global maps. There is something more fundamental and problematic going on than geographic education being in complete disarray. In short, I think geography is lost in space.

As my indictment of TFL indicated, I have a feeling that we've neglected place for far too long. I like Harm De Blij, came into geography totally inspired and enamored by far away and near place eloquently described and vividly depicted in National Geographic Magazine. I am still proud of my yellow-

rimmed Society Magazines and carry them with pride in our department. Two of my favorites were about places that I had lived, Loveland Colorado and Austin, Texas. It is fascinating to read about your place from the perspective of someone to whom it is unfamiliar.

About.com offers thirteen academic definitions of geography sourced to those bold enough to undertake such a task ranging from Alexander von Humboldt to Arild Holt-Jenson. Definitions of geography are ripe with words like interdisciplinary, synthesizing, spatial distribution, spatial variation, and most commonly 'spatial.' I on the other hand, particularly like Yi-Fu Tuan's featured definition "Geography is the study of earth as the home of people." Probably the best definition I heard in school was from a particularly in-your-face professor and former department chair Dr. Estaville. He shouted in his unique way that "GEORGAPHY IS SPATIAL ANALYSIS AND PLACE INTERPRETATION!"

I think it is ill-advised to include methods when describing a discipline or science, however I admire his succinctness and attempt to circumvent controversy from within the sub disciplines by only focusing on methods. As if to convey merit and gravity, he added that if you do those two things you are doing geography, if not, then you are not. I think this definition lacks the word 'Earth' in it.

Without this key word, a researcher could use our methods to perform a nearest neighbor analysis of galaxies, analyze their patterns, and study their distribution all under the auspices of geography. Some of my fellow students have offered up their own definitions,

such as geography is the study of everything, and geography is the study of the earth. Though broad and inspiring, they are too vague.

Being on the receiving end of a geographic graduate education, I reflect that many of my professor's lectures took the form of geographic apologetics. Have we become to everything, too buoyed by geospatial technology, too greedy? How can we reduce what we study and do to its purest most essential form? I think the answer is simple, all around, our history, and our future. As I run down the path, I feel that geography is missing a sense of place. The spatial hegemony has all but removed places from our collective equation. One of my many odd-jobs to get through graduate school was substitute teaching. Classes and social studies curriculums were not lacking in big ideas like migration, cultural diffusion, and global linkages. What was lacking was place. Fifth grade students had no idea what was going on out their own window. Why is their limestone everywhere? Why are their fossils in it? Why are these fossils marine? Why is there so much traffic on the roads? Why is our border with Mexico so irregular compared with the straight lines atop the panhandle? How will climate change affect Central Texas? Where does our water come from?

Student's interest is piqued when talking about their place, other places, and variations between places. Place is a space with meaning, it requires a human observer, and neatly bridges the gap between physical and human geography. They love sharing stories of their travels and the places they have visited. They love hearing about places I have been-limited as they are.

Reflecting on the importance of geography, I think of another substitute teaching experience. It was the week before winter break, and I was on a long-term fifth grade assignment and had developed quite a relationship with the faculty and students at a particular elementary school on a hill, in a cow field, surrounded by encroaching subdivisions, in central Texas. It rarely snows in central Texas and many of my kids (and teachers) had never seen snow fall. The weather forecast on this particular day was calling for a chance of snow-it was bone-chilling cold and windy. While on the recess grounds with mine and one other class, I noticed a fast approaching bank of clouds from the North.

These clouds had characteristic white virga-like dangling shafts of streaky precipitation that I knew from growing up in Colorado meant snow. Ignoring many protests of being cold, I kept the classes out past the bell as the front approached. After about ten minutes, a big powdery snow flake here, then one there, then came millions. A shrill collective scream of "snnooowwww!" went out and the kids ran about like mad. Children's heads were in the all the windows, and of course, the flood gates were opened and out came the entire school. I was quite the hero for predicting the snow, setting the recess example, and being so weather-wise. It was all geography, it was all place awareness, by a geographer then in a field of improbable white.

If you ask people why history is important, you are likely to get the cliché response "those who don't know history are doomed to repeat it." What is our cliché response on the importance of geography? We

need a captivating definition that leads into a succinct explanation of what we do. If you ask a meteorologist who studies storms what they do, they are not likely to open with a discussion on flow boundaries, pressure gradients, thermodynamics, and convection. No, they will tell you they study storms. The same goes with a scientist who determines final velocity of an object by mass, propellant mass, and propellant exhaust velocity-they are a rocket scientist. We need to captivate, or we lose relevance. Historians, Kant's other everything else category, study man's past. It's that simple.

We need a simple engaging definition that leads to an explanation of what we do and why it is important. We need an explanation for ourselves and our discipline that captivates and inspires. I like Yi-Fu Tuan's, but in recognition of all the physical geographers out there, I will offer my own, different one. I define geography is the study of earth's places and how they change. That is all. Where does this leave spatial analysis? It leaves it in fantastic shape. The area within a bell curve is a place, the area without is a place. The place within can be subdivided into places for the two tails, places for the 95% and 99% results, and so on. Cores and peripheries are places, rivers are places, migration routes are places, and functional spaces are places, and so on.

Children construct and convey meaning upon that which they observe. They exist within space, but live in a place. I live in Austin, Texas. I attend Texas State University in San Marcos 30 miles south. There, I study geography and planning. The highway I take between these places almost exactly parallels the balconies fault line, which demarcates the

vast gulf coastal planes to the east from the Edwards plateau and the Central Texas Hill Country to the west. These two cities, part of the fastest growing corridor in America, overlap these two physical places. Our climate is CFa or subtropical human. It gets very hot in the summer. We often get tornados in the spring, when cold air travels unimpeded down from the Polar Regions and collides with warm moist air from the gulf.

I know why there are hills west of the fault. They are the result of water weathering down through limestone. Harder sections remain as hills while softer sedimentary material weathers away. I know from firsthand experience the different way mountain granite weathers compared to limestone. Granite forms little crumbles, limestone melts away. On a different scale, perhaps we can see that telecommunication has changed the world into one functional economic place. For environmental geographers, it is now becoming en vogue to examine the effects of climate change on local as well as global places-because of the more accessible meaning local places convey.

I emerged from the black canopy of overhanging woods into the open soccer fields and starlit night. My car was all alone under a street lamp in the parking lot. Apparently, I was the last runner on the trail. There is nothing like leaving the MP3 player at home and listening to your thoughts, the sounds of the night, and the earth. There is nothing like finishing a run. This will likely be my last run of the winter season on the trail. I am allergic to the mountain cedars or ashe juniper as they are technically known, that are taking over everywhere. Once confined to cliffs, valleys, and hilltops, they have spread all over central

Texas because of fire control and a lack of grazing. This has radically changed the distribution of plants and altered the natural environment in this place. I learned this in a graduate geography class. The cedars offer up their pollen all at once after the first freeze. The winter-spring fever is locally known as Cedar Fever.

How do I sum up my graduate experiences? How do I succinctly explain the value of years of geographic study, exams, and exposure to ideas? How do I convey that geography is important in a world made a smaller place following 9-11? It is simple. It is what brought me to geography in the first place-place. Place is so much more than a location. With the advent of innovations like GPS and Google Earth, we no longer need a geographer for location studies. In fact, spatial analysis could probably be better done by a team of programmers and mathematicians. Places are not locations, they have location.

Place is geography for the masses, the Zen-like distillation of all I have learned and all we are about. You can be poor, have only lived in a few cities, and be place literate and an excellent geographer. Is anything more geographically relevant than knowing about the place you are in? I can close my eyes and retrace 1000 miles of road back to my hometown in Colorado. I know that place, the types of clouds that portend seasonal changes, and where things are very intimately. Without geography I would be lost in familiar and unfamiliar spaces. Geography helps me understand space as a place. Place makes it personal, relevant, meaningful, and allows me to have direction. Where am I? I am here.