

Pictured Dogma: Nation-State, Earth, Rivers

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Maps stir revealed truth together with knowledge won in the world to produce a kind of “scientific dogma,” a “dogmatic science.” The result is every bit as stultifying as it is enlightening. Take, for example, a child, five- or six-years-old and living in a modern nation-state, say the U.S. (It’s the only nation-state I know much about). In what does the nation-state consist for such a child?

Conceptual Debris of the Nation-State

By six I was in the first grade and learning the Pledge of Allegiance. We started our day by facing the flag, putting our right hands over our left chests and reciting the Pledge. Who knew what it meant? Throughout my first four years of school we sang as a class. The phrases I most remember are military: “From the Halls of Montezuma/to the shores of Tripoli,” “Over hill over dale we will hit the dusty trail/as the caissons go rolling along,” and “Around her hair she wore a yellow ribbon/She wore it in the springtime/In the merry month of May.” The first is from the “Marines’ Hymn” and it charts the early phases of an imperial progress that has lately reached Iraq and Afghanistan; the second is from “The Caisson Song,” an early contender for an official song of the U.S. Army; and the third is from “She Wore a Yellow Ribbon,” long associated with the U.S. Cavalry, especially during the wars it fought against American Indians. And, okay, I learned *it* from watching – over and over – John Ford’s *She Wore a Yellow Ribbon*. My brothers and I used to sing it together. We knew it by heart.

There were also the holidays: Washington's Birthday – our Nation's Father – with its inevitable recitation of the story about the cherry tree; Memorial Day with its flags; the 4th of July – Independence Day – with its parades and fireworks and picnics. There was also Thanksgiving with its ritual meal recapitulating – Puritans! Indians! – the mythic origins of our nation. What else did I know about it? I think I knew it had something to do with the coins, Washington on the quarter, Lincoln on the penny.

The eagle, stars and stripes, the word “America,” soldiers, flags, Washington, black Puritan hats, the “spacious skies” (whatever they were) of “America, the Beautiful.” Not much. For Marta, a third grader in the Veneto, the state “is a house where there are many presidents, such as Berlusconi, Scalfaro, Bossi.” For Ketty it’s the “place where mayors and judges live.”ⁱ Okay, they’re Italian, but this was only ten years ago; and while I know that Marta, Ketty and I – from the U.S. and Italy, the 1950s and the 1990s – don’t amount to much of a sample, how many do we need to learn what we already know: kids these ages don’t know anything about the state.ⁱⁱ

Giving the Debris a Place to Collect

Yet I know that by the fourth grade I was all over maps, and that Marta and Ketty’s teachers had no hesitation about exposing their third graders to an experimental curriculum with maps in it. The concepts to be taught? “Definition of *state*: a territory, shown on the political map as an area of a particular color, where the same laws are applied and inhabitants vote for the same parliament and pay taxes for the same government (2 hr.).” The instructional interventions and student activities? “Examination of physical and political maps of Europe. Discussion about the meaning of the different colors on the maps. Discussion about the concept of state. Lesson about the concept of state.”ⁱⁱⁱ

No doubt one *can* live in a nation-state – can fight for it, pay taxes, vote – without ever having seen a map. During the infancy of the modern nation-state I can’t doubt that many did so, maps then being scarcer than now. But I can’t imagine what their conception of the state was like. A gang with initiation rites and dues to pay? A big social club with sergeants-at-arms to keep order? Or the same old system they’d lived in before. (What *was* the difference?) Maybe the question never arose. Maybe much local life was, in the state’s infancy, lived below the radar; but if it was, it wasn’t for long. The state needed *citizens*, not just humans within its borders; and it needed its citizens to hold a consensus about the, well, at the very least about the *viability* of the state. The state needed to exist in its citizens’ eyes.

And nothing makes it exist like a map. The map answers the question, “What *is* it?” It gives the state a body. There it is. You see the U.S. in green bordered by a peachy Canada, a plum Mexico, and the blue of its oceans, and it all *snaps* into place, the flag, the Pledge, the eagle, the spacious skies, *your* state – Ohio, North Carolina – other

nations, “across the pond,” “south of the Río Grande,” “from the Halls of Montezuma to the shores of Tripoli.” Not that many have any idea what the “Halls of Montezuma” refers to, much less “the shores of Tripoli,” but ... attached to that green mass labeled “United States,” it doesn’t matter. It’s ours. *It’s us.*

This is what happens to kids in modern nation-states somewhere between seven and eleven, between the second grade when they haven’t a clue and the sixth when they know all about it.^{iv} At five they’re just kids. At eleven they’re ... *Americans!* Or they’re *Japanese!* Or they’re *Mexicans!* And maybe it is because, from a Piagetian perspective, that concrete operations have finally fully matured; or, from a domain-specific point of view, that the many necessary interconnected concepts have at last been mastered. But certainly it was a map that gave the concepts a body to clothe; and, yes, *no doubt* something more or less similar *could* take place without maps, but it *is* maps that more than all the flags and national anthems and civic lessons brings the nation-state to life.

This Has Been Going on for 500 Years

This embodiment by the map of the conceptual debris tossed up by the state is not new. It was one of the first tasks assumed by the map in its own infancy, an infancy essentially coterminous with that of the state. There were maplike things to be sure – we can think about them as protomaps: cosmograms, portolan charts, city plans – long before they coalesced into what we recognize today as a map; but there was so much the map could do for the state – even before the map became a ubiquitous administrative tool – that the state was, as it were, *forced* to summon the map, to conjure it into its modern form out of existing protomaps, drawings, plans, paintings, diagrams, whatever. It’s essential to remember that the modern state, like the map, was also a novelty in the fifteenth, sixteenth, and seventeenth centuries. Although today we take the state for granted – just as we do the map – nothing like the modern state existed in earlier times. Doubtless there were earlier polities that resemble the modern state in many ways – the Greek *polis* does, the Roman Empire does, China does under the Tang – but they differ from the modern state in essential ways too, and in any case the modern state didn’t derive directly from any of them, anymore than the map derived directly from those protomaps. Although – again like the map – the state is more readily exemplified than defined, it’s possible to point to a number of characteristics that states invariably possess, among which the development of more or less permanent, more or less impersonal political institutions is paramount.^v Evolving from a period in which loyalty had been offered to ones liege, to ones immediate community, and to ones family; and that was typified by a powerful sense of mutual obligations among face-to-face acquaintances, this new political structure with its impersonal institutions and ultimately abstract character required something new for its embodiment.^{vi} And that was the map.

The first thing the map did was give the state borders. Prior to the seventeenth-century spread of mapmaking few polities had borders. What they had were frontiers, *regions* where the authority of one center waned, occasionally simply fading away, but more often waxing toward another center. Frontiers moved. We think of the U.S. frontier moving west, but the frontier between China and Mongolia was a work in continuous progress, north and south despite the wall, until it was replaced by borders.^{vii} Borders did something miraculous: they established the nation's visual form, its shape. They gave the state a body; and this body became iconic, "the map-as-logo" as Benedict Anderson has called it.^{viii} By giving the state a body, the borders made the state a thing, gave it an existence which in its infancy it was often possible to doubt. Martin Brückner, speaking of the young United States says that, "the image of the national map was one of the few visual artifacts demonstrating what many perceived to be either an abstract or even untenable fiction, namely that there could be a national union between disjointed regions and politically disparate people."^{ix}

Nor was this limited to the young United States. Valerie Kivelson argues about seventeenth-century Russia that, "From the point of view of the state, and as experienced by its subjects, mapping the heartlands and the frontier constituted two pieces of a single project: the creation and *imaginative consolidation of a territorial tsarist empire.*"^x Mary Elizabeth Berry argues about early modern Japan that, the "nascent state struggling for survival used two general programs of registration – the cadastral survey and the cartographic survey – to put on paper, *and in the minds of participants*, the tropes of union."^{xi} And Tom Conley has pointed to the importance of the map in negotiating an emergent self's relation to the emerging idea of national space in early modern France.^{xii}

At the same time the maps spoke to outsiders, as in the case of Qing China where Laura Hostetler has suggested that, "Using scaled maps ... was an effective way to stake out claims of empire to an encroaching Europe; the Kangxi atlas defined what China was territorially to the rest of the early modern world;"^{xiii} as also in the case of Britain, whose imperial maps sought, Brückner insists, "to persuade the maps' readers on either side of the Atlantic of British ownership rights regarding the North American continent."^{xiv} Similar conclusions have been reached with regard to early modern – and even much later – mapping programs in Mexico, Siam, British Guyana, India, Israel, and elsewhere.^{xv}

Spinning the Globe into a World of States

Indeed, contemporary scholarship is unanimous that maps possessed an all but unique power to give the elusive idea of the state concrete form, to citizens and to non-citizens alike;^{xvi} and this called for a new map of the world on which to display them. All but immediately the world turned its back on quasi-mythological, cosmogonic forms – the kind we know from the "Babylonian World Map" of c. 600 BCE, from medieval

European *mappaemundi*, from Buddhological world maps (such as the fourteenth-century Japanese Gotenjiku Zu) – to embrace a *globe* covered with states. And, okay, maybe it was *commerce* that called this new world view into being – that insisted on it – but the growth of commerce and the rise of the early modern state were anything but coincidences. Nor was it merely that the single-sheet maps of Mercator and Ortelius presented sovereign states as visually and territorially unified constructs,^{xvii} but that these sovereign-state constructs became – for centuries – the default tiles for the tessellation of the earth. Pretty much they still are.

It's sufficient to compare Europe, say, on the Ebstorf *mappamundi* of the thirteenth century with one of Mercator's maps from the sixteenth to grasp the magnitude of this change.^{xviii} On the Ebstorf, which sums up a centuries-long tradition of cosmographic speculation, there are empires, there are kingdoms, there are nations (which is to say *peoples*); but, posted to the *mappamundi* as cities, castles, and people, they float discontinuously in space. Because not conceived in explicitly territorial terms, none of them takes territorial form. Nor is this because the Ebstorf, even if cast as a Christian romance in the form of Christ's body (it's really *not* a map) is in any way primitive or backward. If anything, quite the opposite. It's simply that the Ebstorf, wholly of its world, gives us a flat earth without borders and without the territorial states that borders delimit.

To turn to Mercator's 1572 map of Europe then is a shock, for this is a modern map.^{xix} It's like one you could find online today – that is, it's a *map*, it's not the body of Christ – and the thing that most marks it as contemporary are ... *the states*, each in its own color, England, Ireland, Scotland, Spain, France, Italy ... each within its borders, borders symbolized exactly the way the National Geographic does, with that inner border in a deeper tone. Note that there's none of the empty space that constituted the background on which the *mappamundi*'s peoples, towns, and castles floated. The logic of borders leaves no background. It invokes a continuous plenum which borders no more than distinguish into parts. This map of Mercator's, his *Atlas*, the great *Theatrum Orbis Terrarum* of Mercator's contemporary, Ortelius, in concert with their analogues in China, Japan, and elsewhere, mark the shift to a modern world.

And the thing about this world was that, even as it covered itself with states, it formed itself into a sphere, a sphere that required maps to solidify it in the minds of its inhabitants no less than the state required maps to solidify the state in the minds of its citizens. The state and the sphere? They weren't different projects, they were one project: that of the modern world.

Maps Give Us a Reality Beyond Our Reach

That is, just as “the image of the national map was one of the few visual artifacts demonstrating what many perceived to be either an abstract or even untenable fiction,

namely that there could be a national union between disjointed regions and politically disparate people,” so the earth mapped as a sphere was one of the few visual artifacts demonstrating what many would otherwise have been certain was a *lie*, namely that the earth was a sphere.

For the sphericity of the earth defies the evidence of our eyes, even our eyes in flight. A couple of months ago I flew from Denver at the edge of the Rockies to Kansas City on the Missouri River: mile after mile of self-evident, high-plains flatness, the even grid of roads stretching out of sight like the ideal plane of theoretical geographers, Descartes plain on the ground. Curved? *This?* Give me a break. And yet Augusta, at age three, already knows the earth is round.^{xx}

How can this be?

Now I don’t want to deny that two years earlier Augusta had flown from the U.S. to Korea, but she was *one* then, and even if she could have made sense of it, what about her trip would have suggested that the earth was a sphere? No, Augusta knows the earth is round because she’s been told the earth is round, because she’s seen pictures of it, because she’s seen a globe. It’s the same way all of us know the earth is round, because everyone has told us so again and again, because our teachers from one grade to the next have told us that it’s round, because it’s round on map after map after map, or, if not precisely round, then *supposed* to be round, topologically round, so that when you run your finger off one side of the map, you have the license to put it back down on the other.^{xxi} I’m not indulging in some form of solipsism here, but in an effort to understand why, in so many media, we make so many maps. Ultimately, the map presents us with the reality we *know* – that of the globe, that of nation-states – as differentiated from the reality we *see* and *hear* and *feel*. The map doesn’t let us *see* anything.^{xxii} But it does let us know what others have seen or figured out (for example, that the earth is round), does let us know what others have dreamed up or invented (including nation-states), others often living but more often dead, the things they learned piled up in layer on top of layer so that to study even the simplest-looking image is to peer back through ages of cultural acquisition.

You might not guess this looking at Augusta’s map. You certainly wouldn’t guess it from clicking on Google Earth. You seem to just zoom in and there’s the world, but in fact the acquired skills, the accumulated knowledge are piled so deep in Google Earth you can barely scroll through them. To begin with there’s that interface with its spinning globe – that globe mastered with such cumulative effort – and then, at least with the layers I have on, in the middle of the North Atlantic, if you zoom in enough, a little volcano which, when you click on it, spouts, “On July 9, 1865, the crew of a whaling ship observed a submarine eruption. Floating pumice reached the sea surface, where it formed a large ‘floating mountain.’ A strong odor of sulfur was noticed, and dull rumblings were heard at intervals of an hour.” Here the piled layers are in your face: a hundred-and-fifty-year-old observation tacked onto the site of an unnamed volcano (one of 1,500 such

volcanoes accessible in this Google Earth layer), out in the middle of an ocean laboriously stitched together from an enormous number of diverse images collected over hundreds of years, projected according to geometries cobbled together over thousands of years, exploiting algorithms created yesterday, uploaded to a system of, literally, hundreds of thousands of servers, moved though a stitchery of millions of miles of cables

Using Google Earth may feel like magic but it's not, or it's the magic of a Fred Astaire dance, effortless only because so long rehearsed, or in this case so long and so widely accumulated with such immense human effort. And to what end? To many ends – it's important to acknowledge this – but mapped images have become – *are* – essential to our sense of the world, to our place within it, to much of our identity; to our national identity without question, but even to our sense of coming from a particular place, from a state or a parish or a neighborhood; to our sense of who we are, of what we're doing, of where we're going. To get rid of something is to "wipe it off the map,"^{xxiii} as to establish something is to "put it on the map," and indeed the map metaphor has become so pervasive that we map not only our genes but our futures.^{xxiv} So integral has the map become it's hard to imagine life without it. We can scarcely imagine how to get across the city without a map, and can simply no longer fathom the peopling of the planet by humans who hadn't invented the wheel much less the map.

Today we can't get away from them, from the maps, from the nation-state, from the spherical earth, and everything else that the map gives us. *Reality* is what maps *give* us, *our* reality. We're continuously mapping the invisible, the unattainable, the erasable, the past or the future, the whatever-is-not-here-present-to-our-senses-now and, through the gift of maps, transmuting it into everything it is not ... into the *real*, into the *everyday*. I've said this all before, but it's worth saying again. A book leaps at me from the remainder table at Barnes and Noble. Bannered across the cover are the words, "The Earth as we've never seen it before." On the fly-leaf, below the headlined "Our Precious Planet," striking new satellite images are promised to reveal *exactly* how fragile our home really is.

In the parking lot outside I'm not struck by the preciousness of the planet, much less its fragility. Instead, I'm overwhelmed by the solidity and apparent indestructibility of everything I see around me. Only the satellite images convince me of the reality the captions evoke: "Behold the Earth." It's as if we'd never done so before and indeed ... apparently we haven't. "New images"; "never seen before"; "new views"; "show us more": each phrase insists on the fact that I never *have* seen the planet in quite this way.

Let's face it: I haven't. Neither have you. Few have. At most, even the best-traveled have seen but a few square miles of its surface. The space around this building, the neighborhood, the thin traverse of the shuttle from the airport, it's not ample, this territory we individually inhabit. It scarcely deserves the name "world" much less "planet." I think again of what Arthur Miller wrote about his father:

In his last years my father would sit on the porch of his Long Island nursing home looking out on the sea, and between long silences he would speak. “You know, sometimes I see a little dot way out there, and then it gets bigger and bigger and finally turns into a ship.” I explained that the earth was a sphere and so forth. In his 80 years he had never had time to sit and watch the sea. He had employed hundreds of people and made tens of thousands of coats and shipped them to towns and cities all over the States, and now at the end he looked out over the sea and said with happy surprise, “Oh. So it’s round!”^{xxv}

Why should this surprise us? After all, the sphericity of the globe, like the shape of a nation-state, is not something that comes to us as seeing-hearing-sniffing-tasting-feeling animals, is not something that comes to us … sensually. It’s a residuum of cultural work, of watching ships come up to us from the sea for eons, of thinking about what that might mean, of observing shadows at different locations, of sailing great distances.^{xxvi} It’s hard won knowledge. It’s map knowledge. It’s not something little kids “naturally” know. It’s not something they can learn by themselves. It’s something they have to be taught.

Map Knowledge Is Dogmatic

“Have to be taught”: what does this mean in practice? In Keith Lye and Alastair Campbell’s *Atlas in the Round: Our Planet as You’ve Never Seen It Before* it means beginning, “The Earth is a sphere (ball) of rock,” with, of course, pictures of the earth as a sphere. Scholastic’s *Atlas of the Earth* begins, “About four billion years ago, Earth was a ball of burning rock and gases,” with, of course, a picture of the earth as a molten sphere. Hammond’s *Basic Map Skills* begins, “You live on the planet Earth. The picture above shows Earth from outer space. From so far away you can see that Earth is round,” obviously, with pictures. And so on. It’s round. It’s like a ball, it’s like an orange, an apple.

Compare, “In the beginning God created the heaven and the earth. And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters. And God said, ‘Let there be light’: and there was light. And God saw the light, that it was good: and God divided the light from the darkness. And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day.”

What’s the difference? On the face of it, little enough. To a child perhaps none at all. Both assertions are emitted, ex cathedra, from the mouth of authority, parental or otherwise. In effect, they’re equally dogmatic. In the Roman Catholic Church, to pick just one, a dogma is an article of faith revealed by God which the Magisterium of the Church presents to be believed, where the Magisterium is the teaching authority of the Church. Since the advent of universal education, the secular teaching authority has been lodged with the state, though it’s often delegated to school boards. Like the Magisterium, school

boards present articles of faith – which they refer to as *facts* – that have been organized into a curriculum for learning (that is, for belief). For many students – perhaps most – the difference between church dogma and school facts is that the former are taught in church and the latter are taught in school. Certainly Augusta’s round world is a piece of dogma. Authorities have told her it’s round: it *is* round. But then so is my notion that North Carolina has 100 counties. I insisted on this only the other day, correcting someone in a casual conversation who referred to a different number. “A hundred,” I said, like I *knew*. Indeed that unquestioning certainty is the very stigmata of dogma.

For maps this character is wholly unavoidable because map knowledge arises from two very different sources: on the one hand maps display knowledge won in the world and distilled to map form, for example, that the earth is a sphere; but on the other maps create knowledge which is then exported to the world, for example, the system of nation-states. In the former, cultural work in the world is realized on a map; in the latter, cultural work on a map is realized in the world. That is, as often as maps are a source of hard-won knowledge they are at the same time a source of revealed truth. It’s the fusion of these in a single image that sets the map apart from other images, that endows the map with its enduring power.

To say it still another way, it’s not just that the map captures things like the sphericity of the earth that we can’t experience directly, but that it imposes on us things that we can’t evade like the borders of a state. By plotting *borders* on a map of the *earth* these two very different kinds of knowledge fuse. The border, artifactual and arbitrary, is naturalized by the earth. The image of the earth is given the authoritative imprimatur of the state.

Take a river ...

So: the earth, vast beyond the grasp of our experience – confounding with its sphericity the evidence of our eyes and feet – is dumped by the map in our lap. The state – abstract and impersonal, puissant in its authority – is given by the map a body as comprehensible as our own. Okay, these powers of the map, even the effectiveness of their fusion, have been well attested. But what is true of the earth and the state – the discovered on the one hand, the invented on the other – is just as true of every *part* of every map.

Take again a child, five- or six-years-old, say, and living in the vicinity of a river, say the Cuyahoga in Cleveland, Ohio. (It’s the one I grew up on.) In what does this river consist for such a child?

By the time I was four I was living on the shores of Lake Eire in a housing project on Cleveland’s West Side, that is, on the west side of the Cuyahoga. The project, Lakeview Terrace, had been built on a tongue of land falling to the Flats between the old channel of the Cuyahoga to the north and its main channel to the east. From the front

door of my apartment it was four short blocks to the old channel – where a bridge crossed to Whiskey Island and Lake Erie – and six blocks to the main channel. I didn’t understand how any of this worked for a long time, but I knew it in my feet. In the beginning my two brothers and I were taken on walks by our parents, but later we wandered around by ourselves. I loved standing on the bridges over the Cuyahoga and watching the water, its iridescence, the colors shifting from orange to green to purple. It had an interesting smell, too, of tar, of oil. Pieces of wood, old tires, belly-up fish would float by. The Cuyahoga was as polluted as any river in the U.S., maybe more so. It had caught fire 13 times before the 1969 fire that made national news. I didn’t know any of this then, I just thought iridescent was the color of rivers. We’d walk to Lake Erie. The main difference between it and the river was its size. I couldn’t see the other side of the lake – though my brothers and I speculated about walking across it in the winter when it was frozen – but big though it was I could see across the river. I could walk across it, too, on any of the dozens of bridges, but it was huge, the Cuyahoga. I could go on.

So, the name, then, “Cuyahoga,” the word “river,” the shimmering iridescence, its great width, the smell, dead fish, the water stretching away from the bank at my feet. Again, not much. But unlike the nation-state, a ton of complicating river imagery from movies, from picture books, *A Story about Ping*, for instance, the Marjorie Flack and Kurt Wiese book about the little duck on the Yangtze River. Essentially it’s about getting lost, but few pages fail to show the river, very wide but always blue.^{xxvii} Still, most of this is bank view too, close up like mine of the Cuyahoga. In most kids’ books the river’s essentially a scene. Exceptions stand out, like Gertrude Crampton and Tibor Gergely’s *Scuffy the Tugboat and His Adventures Down the River*.^{xxviii} In this story Scuffy is put into “a laughing brook” in the hills, runs downstream into a little river, then into a bigger river, and so finally to the sea. The river’s a narrative here. It has ... length. More substantial, and perhaps for older kids, is Holling C. Holling’s *Paddle-to-the-Sea*.^{xxix} Paddle is a 12-inch canoe that takes a trip from a snow bank beside a river through the Great Lakes to the St. Lawrence and finally the Atlantic. Unlike *Scuffy*, *Paddle-to-the-Sea*, with maps, is explicitly a geography lesson though even so most of its images are views from the bank.

Small wonder, then, that when asked to draw a river little kids give us scenery.^{xxx} Here Brian, age four, offers us a river – is that fish in it, lower right? – beneath a yellow sun and a sky as blue as the water. Seth, also age four, foregrounds the water too, flanked by bridges, but beyond the river rises a bank and beyond that, grass? Vegetation in any case with at least a lion in it. At age five, Stephanie brings a veritable fleet with flags flying into water choppy beneath a sky and smiling sun. And isn’t that a fish in the water below? Adrian, at six, gives us a river between both its banks, with a wood rising beyond it, and another sun. Again, hardly a sample, but it’s characteristic: for young kids rivers are *bodies* of water stretching away from them, animate, if not with fish, then boats. Sure these are conventional images – the blue sky, the sun – but they do capture an aspect of

experience that later goes missing. Or that gets exchanged for something else.

In fact it's a whole other story very soon. Just a couple of years later the prompt "Draw a river," elicits mainly maps. Or map-like drawings. Those with "wave" signs could be high obliques, but plan views predominate, and a couple deploy ordinary map conventions. In every case, though, the drawings distill the river into an image of channelized turbulence, of water between banks (unless one of them is a river in flood). Of course this is complicated. Some of what we see here is clearly pleasure taken in the mastery of a new way of drawing. Who knows what its stability is and again, a bunch of kids from Elizabeth City, North Carolina, in the 1970s hardly constitutes a sample.^{xxxii} But, again, how many do we need to learn what we already know: as kids age their thinking about rivers grows ever leaner and longer. Complicated scenes – with smells, fish, boats, choppy waves – get smoothed into water courses, the debris gets carried away in the flow, the river shrivels to a strand of blue linguine.

Take this map of the Cuyahoga. Its river, 100 miles long, runs wholly against the grain of my experience as a boy, against the grain of my experience as a man (for I worked unloading ore boats in a steel mill on its banks) *exactly* as the round earth does. Like the earth, this long Cuyahoga is cobbled together from a wealth of experience, connections made, surveys run. But at the same time, like the nation-state, the river's an invention, the idea of its waters scooting down its channel belied by *the very crookedness* that earned it the Iroquoian name Cuyahoga. What else could this crookedness be but a sign of water determined *not* to stay in its "channel"? Determined, again and again, to carve itself a more direct path to the lake, and then determined to carve away at that? This is water determined not to stay within its banks or, when it does, only where those have been hardened by humans, the channel dredged; and, indeed, the Cuyahoga today is very much an invention, its mouth in 1827 having been moved 4,000 feet to the east, and then widened, deepened, its banks straightened, its basins widened (and still the river flooded this spring).

"Dogmatic" is what I'm insisting these map signs are, and here's Robert Stanley a couple of months ago dogmatizing about Stoney Clove, a stream in the Catskills whose waters had barely receded from the streets and homes of Shandaken: "This stream has to stay in the channel!"^{xxxiii} What does he imagines he means by that? "*Has to stay.*" Oh, really? And "channel"? What channel? The one on the map, presumably, for otherwise a river's channel is the one it's in. Cartographers work with strict definitions, and here's one for stream channel: "Stream channel is the physical confine of a stream (river) consisting of a bed and stream banks."^{xxxiv} Uh huh. Now read this story about this spring's flood of the Cuyahoga:

If this weekend's heavy rain storms trigger widespread flooding anything like Monday's mess, the best place to run for dry ground in Northeast Ohio might be the last place you'd expect – federally designated flood zones.

That's what you might conclude from a *Plain Dealer* analysis that

compared the location of hundreds of flooded Cuyahoga County properties with the Federal Emergency Management Agency flood plain maps finalized in late 2010.

The comparison revealed that other than along the Cuyahoga River flood plain in Valley View, flooding nearly everywhere else was *outside* flood zone boundaries.

Experts said this week that such a seemingly contradictory notion was the likely result of those very rivers and streams running through flood plains being engorged. That forced groundwater, unable to push into the streams, to rush up through floor drains or seep through basement walls or along the concrete pad under homes without basements.

“That’s exactly right, at least for this past storm,” said Hugh Shannon, assistant director for the Department of Justice Affairs, the county agency that oversees the 911 system and Emergency Management Agency.

He and other experts said the lack of damage in federal flood zones doesn’t mean they aren’t needed, but only that this storm did not produce enough water to cause the rivers to spread far enough to reach homes and businesses in the zones.^{xxxiv}

Wait a minute! There was enough water to make it flood where the maps said it wasn’t supposed to, but there wasn’t enough to make it flood where the maps said it was supposed to? How can that possibly make any sense?

Well, it’s simple

If, for the nation-state, the map answers the question, “What *is* it?”, if the map gives the conceptual debris tossed up by the nation-state a place to collect, a framework around which to coagulate, this is what maps do for all the phenomena they figure. Where an encyclopedia might say that a nation-state “is a state that self-identifies as deriving its political legitimacy from serving as a sovereign entity for a nation as a sovereign territorial unit,” blah blah blah, the map substitutes … *a handy shape*. Where an encyclopedia might say that rivers “are natural watercourses, flowing over the surface in extended hollow formations (i.e., channels), which drain discrete areas of mainland with a natural gradient,” blah blah blah, the map offers up … *a distinctive line*.

The problem is that while posting the river as a blue line *may* capture something (but *what* exactly?), it sacrifices everything else. While what it sacrifices from a phenomenological perspective may be the river’s complicated human richness, its smell, its shifting color, its immensity, its *power*, what it sacrifices from a hydrologic perspective is the river’s epiphenomenal presence as the resolution of an encounter between land and water in a gravitational field. River and stream, channel and surface, banks and beds, these human constructs distract attention from … the water; and it was the water coming up from the ground that caused the floods in Northeast Ohio, not the Cuyahoga overflowing its (wholly artificial) banks. Floods aren’t caused by rivers,

they're caused by water; and when it floods it's not that the blue line widens, but that the blue line/river construct never caught the wild water in the first place.

And neither – obviously – does floodplain mapping which is little more than the mapped river writ broad. The difference between the two is that floodplain maps figure significantly in building permits, environmental regulations, and flood insurance, and for these reasons are frequently in court. The National Flood Insurance Program of the U.S. regulates floodplain development based on what they call “the 100-year floodplain.” This is a construct cantilevered off a construct cantilevered off a construct, but it’s mapped and naturally people take it as dogma. Not far from Shandaken, where Robert Stanley held forth, PSK Supermarkets built a new, multimillion dollar store in a floodplain last year. Why?

Noah Katz, a co-president of the company said he knew he was building on a flood plain and was aware of the damage that major storms had already inflicted on the village. But since a couple of 100-year floods had already occurred in the past 15 years, the likelihood of another such storm anytime soon seemed thin.

“We thought we had a hundred years,” he said.^{xxxv}

Well, at least that’s how he read his map.

How Do You Read Yours?

Maps are *covered* with signs like these for floodplains, for rivers, signs mapmakers have long tried to pass off as no more than generalizations, no more than abstractions of things in the world. Map signs are anything but. In fact a national boundary is practically the opposite of an abstraction; it’s more like an incarnation. Floodplain boundaries aren’t that different. Even river symbols are probably more incarnations than anything else. I mean, if they’ve been generalized, exactly what *is it* of the river that that’s happened to? The river’s propensity to move? To flood? Yeah, I doubt it, and in any case hard to say without a host of qualifying considerations.

Map images aren’t generalizations, they aren’t abstractions. They’re conceptual magnets, drawing to themselves pieces of conceptual flotsam and jetsam; they’re conceptual vacuum cleaners, hoovering their way through conceptual debris. In their wake, in the place of a thousand possibilities, one solidifies (the nation-state); where previously many descriptions competed, now one synthesis reigns supreme (the river). Relieved of the conceptual welter than entangles every effort to say what is, the map produces a river you can trace with your finger, a nation-state you can make a jigsaw piece out of, a globe you can twirl.

They’re such a relief! And that very relief helps solidify their grip. With a map in hand I can stop thinking. I can reduce the world to this or to that simple picture. To few enough in any case, and nothing like the chaos I had to deal with before the map intervened. Half discovered, have invented – the proportions vary – map imagery slashes

through the complexities of existence to give rise to a simple if tragically constrained reality: *ours*.

I don't know. Might it not be better to try living a little less on the map and a little more in the world?

ⁱ Marta and Ketty were part of a study about kids' perceptions of the state: Anna Emilia Berti and Alessandra Andriolo, "Third Graders' Understanding of Core Political Concepts (Law, Nation-State, Government) Before and After Testing," *Genetic, Social, and General Psychology Monographs* 127(4), 2001, pp. 346–377; this built on an earlier study, also worth looking at for its wealth of data, Anna Emilia Berti and Cristina Benesso's "The Concept of Nation-State in Italian Elementary School Children: Spontaneous Concepts and Effects of Teaching," *Genetic, Social, and General Psychology Monographs* 124(2), 1998, pp. 121–143.

ⁱⁱ Little is actually known about this, but it's unanimous. In addition to the Berti and Andriolo study just cited, see Berti's "Children's Understanding of the Concept of the State," in Mario Carretero and James F. Voss, eds., *Cognitive and Instructional Processes in History and the Social Studies*, Erlbaum, Hillsdale, NJ, 1994, pp. pp. 49–75; for Australia, Raewyn Connell, *The Child's Construction of Politics*, Melbourne University Press, 1971; Great Britain, Hans G. Furth, *The World of Grown-ups*, Elsevier, New York, 1980; and Spain, J. Delval, C. del Barrio, and G. Echeita's "El conocimiento de los niños de su propio país [Children's knowledge about their own country]," *Cuadernos de Pedagogías* 75, 1981, pp. 33–36.

ⁱⁱⁱ Berti and Andriolo, 2001, op. cit., p. 355.

^{iv} See Berti and Benesso, op. cit., with their comparison of five-year-olds, 8-and-9-year-olds, and 11-and-12-year olds.

^v See, from a voluminous and contested literature, Joseph R. Strayer, *On the Medieval Origins of the Modern State*, Princeton University Press, Princeton, 1970, for a succinct overview from one perspective. For a less succinct overview from another, see Perry Anderson's *Lineages of the Absolutist State* (Verso, London, 1979 [1974]).

^{vi} Of course kids recapitulate precisely this process as they move from the face-to-face world of family and friends to that of the school. Inescapably the map is one of the rationalizing and disciplinary techniques that Foucault recognizes emerging with the modern state in the seventeenth century; and while Foucault doesn't discuss the map as

such in these pages, the best place to understand how he would have is the third part, “Discipline,” of *Discipline and Punish: The Birth of the Prison* (Random House, New York, 1979), not only the “locus classicus” of the pages on the “art of distribution” and those on panopticism, but the whole piece. It’s interesting that even when he was asked directly about the “map as an instrument of power/knowledge” he didn’t answer, though admittedly it was a question I don’t believe could be legitimately asked since it assumed the map as an instrument of power in the ancient and medieval worlds. See, “Questions on Geography,” in Michael Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977* (Pantheon, New York, 1980), pp.63-77, with the question on p. 74. That the map is an instrument of normalization, however, I have no doubt, though from the very beginning – i.e., the sixteenth century – it had ... its other side.

^{vii} See R. J. V. Prescott, *Political Frontiers and Political Boundaries* (1987) for the essential distinction. In his dissertation Thongchai Winichakul traced the history of these emergent and shifting borders in Southeast Asia to shape this entire line of argument. See his *Siam Mapped: A History of the Geo-Body of a Nation* (University of Hawaii Press, Honolulu, 1994). Eric Tagliacozzo explores the dynamic of the British and Dutch frontiers even as they’re being mapped into borders in *Secret Trades, Porous Borders: Smuggling and States Along a Southeast Asian Frontier, 1865-1915*, Yale University Press, New Haven, 2005.

^{viii} In Benedict Anderson, *Imagined Communities* (Verso, London, 1991), p. 175.

^{ix} In Martin Brückner, *The Geographic Revolution in Early America: Maps, Literacy, and National Identity* (University of North Carolina Press, Chapel Hill, 2006), p. 121.

^x In Valerie Kivelson, *Cartographies of Tzardom: The Land and Its Meaning in Seventeenth Century Russia* (Cornell University Press, Ithaca, 2006), p. 10.

^{xi} In Mary Elizabeth Berry, *Japan in Print: Information and Nation in the Early Modern Period* (University of California Press Berkeley, 2006), p. 39.

^{xii} In Tom Conley, *The Self-Made Map: Cartographic Writing in Early Modern France* (University of Minnesota Press, Minneapolis, 1996). This is, in fact, the central theme of *The Self-Made Map*, a theme Conley explores by teasing out the relationships among the emerging state, emerging mapmaking, and “the growth of a new medium – literature – in early modern print culture” (p. 2). I perhaps make too little of the parallel growth of print, but so much important mapmaking – that surrounding the growth of the cadaster, for example – never made it into print that I feel *too much* can be made of the importance of print. Yet certainly print was the prime enabler of the map’s ability to embody the nation’s geo-body in popular patriotic culture.

^{xiii} In Laura Hostetler, *Qing Colonial Enterprise: Ethnography and Cartography in Early Modern China* (University of Chicago Press, Chicago, 2001), p. 80.

^{xiv} Brückner, op. cit., p. 56.

^{xv} This is an essential body of work. Beyond those already cited or quoted see for Japan, Marcia Yonemoto, *Mapping Early Modern Japan: Space, Place, and Culture in the Tokugawa Period, 1603-1868* (University of California Press, Berkeley, 2003); for Mexico, Raymond B. Craib, *Cartographic Mexico: A History of State Fixations and Fugitive Landscapes* (Duke University Press, Durham NC, 2004); for British Guyana, D. Graham Burnett, *Masters of All They Surveyed: Exploration, Geography, and a British El Dorado* (Chicago: University of Chicago Press, 2000); for India, Sumathi Ramswamy,

“Visualizing India’s Geo-body: Globes, Maps, Bodyscapes,” *Indian Sociology (ns)* 36(1&2), 2002, pp. 151-189; and for Israel, the seventh chapter of my own *Rethinking the Power of Maps* (Guilford, New York, 2010), pp. 231-255.

^{xvi} A third important thing the map did for the state was propel its existence backwards in time. By presenting the state as *an existent thing* the map obscured the origins of the state *in history*, assuming and so projecting the prior existence of the geo-body, for especially colonial regimes that claimed to ‘inherit’ ancient geo-bodies by drawing, as Anderson puts it, ‘historical maps designed to demonstrate, in the new cartographic discourse, the antiquity of specific, tightly bounded territorial units’ that had in fact *not* previously existed. This was even more true for *modern* states like Germany, Italy, Israel, Iraq, the Sudan. This promotes rhetoric about the inviolability, and so the necessity of defending borders, which returns us to the first way maps produce the geo-body.

^{xvii} Brückner, op. cit., p. 120.

^{xviii} For the Ebstorf, the best publication is that provided by the University of Lüneberg online at: http://www.uni-lueneburg.de/hyperimage/hyperimage/ebsKart_E.htm. This is a very rich site. For the Mercator see *The Mercator Atlas of Europe*, Walking Tree Press, Pleasant Hill (OR), 1998.

^{xix} Though actually this is his son’s from 1595. The following detail is from the 1572, of which I could not find a sufficiently high resolution image online.

^{xx} This drawing was collected by Augusta’s mother, Chrysta Wood. I first published the drawing in *Rethinking the Power of Maps*, op. cit., p. 17.

^{xxi} As Thomas Saarinen has observed, “At the world scale the main source of knowledge is education rather than experience moving through the environment. Global map models used in formal education are particularly important,” this in reference to a data set of 3,568 sketch maps drawn by first-year university geography students from 52 countries around the world (in “World Sketch Maps: Drawing Skills or Knowledge,” Discussion Paper, Department of Geography, University of Arizona, 1998, pp. 4-5). Of course not everyone believes the earth is round either. Though I was first introduced to the Flat Earth Society in Martin Gardner’s *Fads and Fallacies in the Name of Science* (as in 1957 Dover Books retitled Gardner’s 1952 *In the Name of Science*), Christine Garwood has recently published a comprehensive history of (especially) the nineteenth- and twentieth-century, Christian fundamentalist revivals of flat earth belief in her *Flat Earth: The History of an Infamous Idea* (Macmillan, London, 2007). Others elsewhere in the world, not Christian fundamentalists, also believe the earth may not be round.

^{xxii} Many in the cartographic and geospatial technologies communities continue to believe that maps *are* a kind of seeing, almost in the same way some Christian fundamentalists believe the earth is flat, that is, without a lot of thought but very fervently. Among the most serious recent attempts to maintain this position is Gerald Fremlin with Arthur H. Robinson, *Maps as Mediated Seeing, Monograph 51, Cartographica* 35(1/2), Spring/Summer 1998. A corrected offprint, dated May 2000, should be considered the definitive version of this monograph.

^{xxiii} A few years ago debate raged over whether Iran’s President, Mahmoud Ahmadinejad, said, “Israel must be wiped off the map,” or whether دوش و حم راگزور هحفص زا دی اب would be better translated, “the regime occupying Jerusalem must fall.” It seems that in this case, many have insisted on taking literally what is ordinarily taken as metaphor, and

that in context Ahmadinejad's remarks were no more than a call for a world without Zionism, which is something even many Israeli Jews ardently desire.

^{xxiv} The use of map metaphors is as old as substantive map usage, so some four hundred years or so. In his interesting *Mapping Discord: Allegorical Cartography in Early Modern French Writing* (University of Delaware Press, Newark, 2004), Jeffrey N. Peters quotes extensively from the seventeenth-century critic, Charles Sorel, who speculated about the origin of the form and gives numerous examples of contemporary usage, pp. 23-24.

^{xxv} Arthur Miller, *Timebends*, Grove Press, New York, p. 594.

^{xxvi} The late Denis Cosgrove traced the idea of the earth as a globe, at least in the Western tradition, in his *Apollo's Eye: A Cartographic Genealogy of the Earth in the Western Imagination*, Johns Hopkins University Press, Baltimore, 2001.

^{xxvii} As one English kid said after actually visiting a river, "I like rivers less now because I always thought they would be a bit cleaner, but they look more dirty than the ones you see in a book," in Susan Tapsell et al., "Growing Up with Rivers? Rivers in London Children's Worlds," *Area* 33(2), 2001, pp. 178-189, quoted from p. 187.

^{xxviii} Gertrude Crampton and Tibor Gergely, *Scuffy the Tugboat and His Adventures Down the River*, Western Publishing, Racine (Wisconsin), 1946. This is a Little Golden Book and still one of the best-selling children's books of all time.

^{xxix} Holling C. Holling, *Paddle-to-the-Sea*, Houghton Mifflin, Boston, 1941. It was 1942 Caldecott Honor Book, and made into an Oscar-nominated film in 1966.

^{xxx} These and the following bunch of maps from older kids were collected by undergraduate students enrolled in classes I taught in perception and cognition in 1970s and 1980s at North Carolina State University. First I had them investigating the perception of hills, then water. The hill material is available in *The Power of Maps* (Guilford, New York, 1992), Chapter 6, and elsewhere. The water work has never been published.

^{xxxi} I had my students collecting drawings from all over North Carolina.

^{xxxii} Kirk Semple, "A Dilemma, a Promise, a Voice: After the Storm: On Flood plain, Pondering Wisdom of Building Anew," *New York Times*, September 5, 2011, pp. A13-A14, the Stanley quote from p. A14.

^{xxxiii} This is actually from Wikipedia.

^{xxxiv} Michael Scott, "Cuyahoga River flooded, but other Northeast Ohio flood zones stayed dry in February thaw," posted March 5, 2011, at Cleveland.com. I accessed it October 9, 2011: http://blog.cleveland.com/metro/2011/03/county_flooded_but_most_northe.html.

^{xxxv} Ibid.