CHAPTER ONE

Maps Blossom in the Springtime of the State

A cornucopia of images, bewildering in their variety: this is the world of maps. Parchment and gold leaf, paper and ink, phosphors and electron beams . . . few are the substances that have failed to be used to make maps of the world we live in. We draw them in the air and we trace them in the snow, we eat over them on placemats and we stare at them on billboards. We have sewn them on silk and printed them on T-shirts, sawn them into jigsaw puzzles, and mosaicked them into murals. Most are gone now, lost in the making or evaporated with the words that brought them into being. The incoming tide has smoothed the sand they were drawn in, the wind has erased them from the snow. Pigments have faded, the paper has rotted or been consumed in the flames. Many simply cannot be found. They are crammed into the backs of kitchen drawers or glove compartments or mucked up beneath the seats with the KFC boxes and the Slurpee cups. Where have all the road maps gone, and the worlds they described and the kids we knew, Route 66, and the canyon beneath Lake Powell, and the old Colorado pouring real water into the Gulf of Mexico? And when we talk of the "old map of Europe"—which too has disappeared—we are speaking of certainties we grew up with, not a piece of paper. And yet, and yet . . . it is hard, in the end, to separate those certainties from the pieces of paper that not only figured that world, but brought it into being.

Maps Give Us a Reality beyond Our Reach

And this is what maps give us, *reality,* a reality that exceeds our reach, our vision, the span of our days, a reality we achieve in no other way. We are always mapping the invisible or the unattainable or the erasable, the future or the past, 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. 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 am not struck by the preciousness of the planet, much less its fragility. Instead, I am overwhelmed by the solidity and apparent indestructibility of everything I see around me. Only the satellite images—let us think about them as maps for the moment—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 convention center, that neighborhood, the thin traverse of the tour bus, the road from the airport home, it's not ample, this territory we individually occupy. It scarcely deserves the name "world," much less "planet." I think 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!"[1]

Why should this be surprising? The sphericity of the globe is not something that comes to us as seeing–hearing–sniffing–tasting–feeling animals, is not something that comes to us . . . sensuously. 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.[2] It is hard-won knowledge. It is map knowledge. It is something little kids are taught, not something they "naturally" know.

So how *do* we know the earth is round? We know the earth is round because (almost) everybody says it's round, because in geography class our teachers tell 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.[3] I am 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* as differentiated from the reality we *see* and *hear* and *feel*. The map doesn't let us *see* anything.[4] But it does let us know what others have seen or figured out or dreamed up, others often living but as 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 (Figure 1.1).

You might not guess this 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—the globe mastered with such

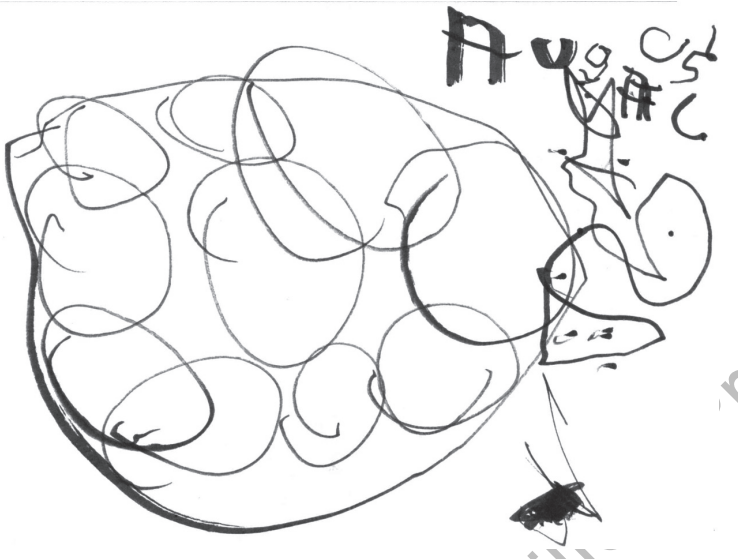

FIGURE 1.1. Augusta draws the earth. At age 3 Augusta already knows the earth is round. (*Source:* Augusta Dea Wood)

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 150-year-old observation tacked onto the site of an unnamed volcano (one of 1,500 such volcanoes from the Smithsonian Institution's Global Volcanism Program 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 certainly mapped images have become essential to our sense of the world, to our place within it, to much of our identity; to our national identity certainly, 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,"[5] 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.[6] So integral has the map become that it's hard to imagine life without it. We can scarcely imagine how to get across the city without a map, and we can simply no longer fathom that millions of Americans crossed the continent without maps, that Genghis Khan and Charlemagne ruled without maps, that Rome administered its

empire without a map, that the pharaohs controlled Egypt without a map, that the Bible was written without once referring to a map.[7]

The Bible doesn't, you know, not once, because in biblical times maps didn't exist. People didn't need maps then. They got on fine without them. They found their way with their eyes and their tongues. They managed their affairs that way too, talking, gesticulating. So inured are we to the use of maps—to schedule leaf collections, to assign kids to schools, to study forests, to think about the geology of Mars—that we can't imagine that for almost all of human history, for 99% of it at the very least, people didn't use maps at all.

And a Map Is . . . ?

Like most humans artifacts—like cars, tables, belt buckles, spoons—maps are more readily exemplified than defined. You point to one. "This is a map," you say. What a map most is becomes apparent in use.

This has stopped no one from trying to define maps, however, at least since the 17th century when simultaneously in places as far-flung as England, Russia, New Spain, and Japan, maps and mapmaking first became common. A recent collection of hundreds of definitions of the English word "map," drawn from the years 1649 to 1996 (Figure 1.2), makes it plain that across this period "map" has been defined more or less continuously as "a representation of a part of the earth's surface."[8] Similar collections could be made in other languages, in Japanese, in Spanish, in Chinese, in Russian. This nearly unanimous definition cannot, however, be accepted as an "outsider's" impartial description of the nature and role of the map. Instead, it needs to be understood as a projection, as it were, of the map itself, *the map as it would like to be understood,* as people project their own cultural norms into definitions of "civilized" and those of the Other into definitions of "barbarian."

Defining the map as a representation of part of the earth's surface *naturalizes*

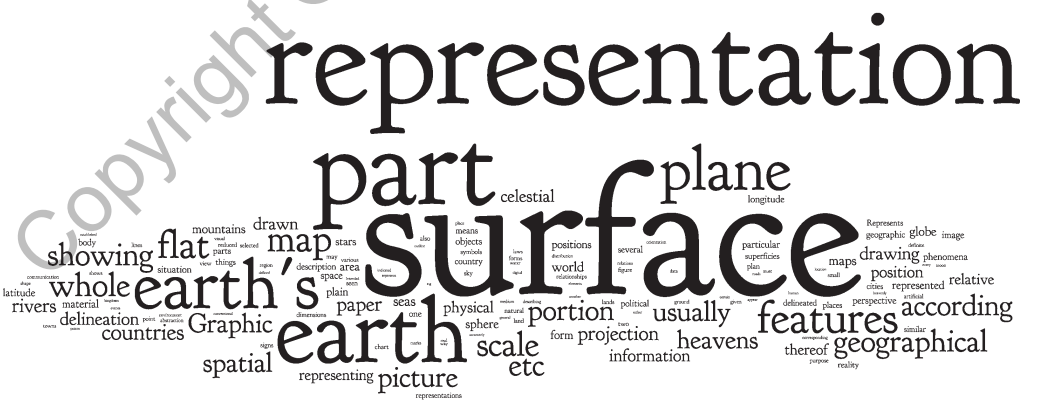

FIGURE 1.2. A map is a representation of parts of the earth's surface, or is it? A "word cloud" made using Jonathan Feinberg's wordle algorithm out of all the words in the 321 definitions of the word "map" that J. H. Andrews collected from the years 1649 to 1996. The size of each word is proportional to the frequency of its occurrence in the corpus. (*Source:* J. H. Andrews and wordle)

the map. Naturalizing the map has the effect of *universalizing* it, and this helps obscure the map's origins in the rise of the state. Naturalizing the map helps . . . *pass over* . . . the map's role in the establishment and maintenance of social relations in societies where maps are common. Naturalized this way, maps seem ordinary and unremarkable, indeed necessary. It's because they seem necessary that scholars like Brian Harley and David Woodward and Jim Blaut and David Stea—and others—insist on conflating maps and mapmaking with such universal human, even such animal abilities as orientation, wayfinding, and other aspects of spatial intelligence, even though these are *not* what maps and mapmaking are most often used for (again, they're used to schedule leaf collections, assign kids to schools, study forests, think about the geology of Mars).[9] Because they conflate maps with fundamental cognitive abilities, these scholars take it to be a slur on a population, as a denigration of its cognitive or cultural capacities, to deny that it makes or uses maps. Instead, they claim that *everyone* uses maps and always has.[10] But, in fact, just as people long lived and as many continue to live without writing—nonetheless carrying on a rich human life—so people have long lived and *many continue to live* without maps. People create maps only when their social relations call for them, and the social relations that most insistently call for maps are those of the modern state, wherever in the world.

The Development of the Map Discourse Function[11]

People make maps to discover their minds and to connect themselves. These are also the reasons people talk, so where talk serves maps are rare. But when talk becomes inadequate, either because the discourse gets too complicated, or there are too many people, or they are separated by too great distances or too much time—as invariably happens with the emergence of modern states—people develop alternative forms of communication.[12]

For the past 30,000 years people have been making artifacts that *anticipate* the sorts of things that today we call badges and genealogies and inventories and almanacs and histories and itineraries and maps—"anticipate" because the distinctions we now draw so automatically among these very different discourse functions took a long time to evolve, and in many cases have often only recently achieved their current forms. Paleolithic peoples bundled these discourse functions together on incised bones.[13] We've been pulling them apart ever since.

Elaborating on Paleolithic achievements, people have constructed an ever-widening repertoire of cultural forms—clothing, ritual, pottery, painting, sculpture, architecture, drawing, writing, books, prints, film—within which they've encoded ever more elaborate communications. Paralleling the proliferation of forms has been a comparable expansion in the powers of sign systems—gestural, sculptural, pictorial, pictographic, symbolic, numeric, syllabic, consonantal, alphabetic, and others—often overlapped and mixed up in rich syntheses of functions, forms, and meanings.

Among these syntheses the map is comparatively novel. Most English speakers use "map" in a straightforward way to describe an artifact, which is still most commonly printed on paper if increasingly taking electronic form. Maps selectively link places in the world (*there*s) to other kinds of things (to *this*es)—to taxes, for example,

and to voting rights, to species abundance, and to the incidence of rainfall—for the purpose of underwriting the reproduction (or the contestation) of the social relations of power.

That is, maps are more or less permanent, more or less graphic artifacts that support the descriptive function in human discourse that links territory to other things, advancing in this way the interests of those making (or controlling the making) of the maps. Such maps have comparatively shallow roots in human history, almost all of them having been made since 1500. In fact, almost all the maps ever made have been made during the past 100 years, the vast majority in the past few decades. So many maps are made today, and they are reproduced in such numbers, that no one any longer has any idea how many. The maps printed annually by no more than the world's newspapers easily number in the billions. In contrast, the maps surviving from everywhere in the world for all of human history prior to the rise of the modern state number, in a very inclusive definition of the map, in the very low thousands, as if all the humans on the planet had made a single map each year—one here, another there—across the preceding couple of millennia.[14]

Paralleling the explosion in map *numbers* has been a corresponding *penetration* of the map into ever deeper recesses of our lives. If there *is* some sense in which maps may be said to have existed in the ancient and medieval worlds, they were confined to sporadic large-scale property-control, and rare small-scale cosmological-speculation functions.[15] This is to say that starting around 2300 BCE, Babylonian scribes made large-scale drawings of temples, houses, and fields that might have been related to property transactions; that during the eighth century CE, Japanese scribes made large-scale drawings of paddy fields to document ownership during a period of intense landholding consolidation, as well as large-scale drawings of shrines and temples; that from the 12th through the 15th centuries CE, English scribes made large-scale drawings of monasteries, cathedrals, and fields, invariably for planning and legal purposes; and so on.[16]

That is, unquestionably, a very large-scale, graphic, property-control function can be documented prior to the emergence of the modern state, sporadically and discontinuously, in various places around the world; nor can there be any question that these drawings participated in *local* property-control traditions. But equally there is no suggestion that they participated in *anything* like a broader mapmaking tradition. For example, there were no connections at all to the rare, small-scale cosmograms that can also be documented from equally disparate times and places, for example to the well-known "Babylonian World Map" of c. 600 BCE (which even favorably inclined historians of cartography acknowledge was "really a diagram"); no connections to medieval European *mappaemundi* (though again, these were usually "no more than diagrams of the main regions of the world"); and no connections to the Buddhological world maps such as the Japanese Gotenjiku Zu of the 14th century.[17] Again, nobody doubts that these drawings participated in local traditions of cosmological speculation, but again the lack of any connection to the large-scale property-control tradition makes it hard to maintain that there was any sort of overarching *mapmaking* tradition to which these drawings could be tributary; much less a mapmaking tradition that penetrated to any degree at all the lives of ordinary men and woman.

Contrast this, now, with the radically different situation that dawns with the 16th century when vast swaths of territory were increasingly subjected to systematic

surveys by newly self-conscious states. In 1559, for example the Hapsburg emperor, Philip II of Spain, commissioned a detailed survey of his possessions in the Netherlands, in 1566 of those in Spain, in 1575 of those in southern Italy, and in 1577 of those in New Spain; in 1591, the Japanese hegemon, Toyotomi Hideyoshi, ordered all daimyo to submit summary cadastral records and maps for the construction of a countrywide cadaster, and the shogun Tokugawa Ieyasu ordered the submission of a second set of cadastral and cartographic documents in 1604; in 1663 Louis XIV's minister for home affairs, Jean-Baptiste Colbert, commissioned the collection of surveys and maps to cover all of France; while in 1666 the governor of Siberia commissioned the mapping of the territories under his control. Most early modern states initiated similar projects.[18] If not all these commissions were completed as initially hoped—for example, Philip's of New Spain wasn't, returns from Hideyoshi's request were spotty—such efforts very much laid the ground for increasingly comprehensive and intrusive surveys, including the 19th-century inauguration of national topographic mapping programs, which were widely completed during the 20th century, as well as the production, to give one example, of fire and insurance atlases that not only posted the ground plans of individual homes but included the construction details of heating systems.[19]

Today we map the weather in something approaching real time, the locations of sex offenders, the residences of donors to political parties and the size of their donations, school attendance zones, atmospheric ozone, the conversion of rainforest to farm land, the route to any cinema from your home address, regularly updated locations of roadblocks in the West Bank, reported instances of the West Nile Virus, yesterday's crimes sorted by type of crime, the locations of tomorrow's highway-construction delays, deaths in Iraq, cell phone towers, the tax value of homes, bus routes, bike paths, election returns by precincts, counties, and states, consumer preferences by ZIP code.

Is there something we *don't* map? So pervasive and so taken for granted are maps that it is hard to accept the *recency* (and the continued relative isolation) of their general use, or to appreciate the 17th-century *explosion* in their numbers that we continue to experience today.

Trying to Write the History of Mapmaking

Even more recent than maps has been an interest in their history, datable in its current form only to the 1980s. Earlier histories wed the interests of 20th-century, academic cartographers—a self-anointed mapmaking elite—to a preexisting European antiquarianism that was dominated by a nationalist passion for decorative printed maps of the 15th to 18th centuries. These histories spawned a hero saga (Demosthenes, Ptolemy, Mercator, the Casinis, Minard, Edes Harrison) that plotted cartographic progress from humble origins in Mesopotamia to the putative accomplishments of the Greeks and Romans, the rediscovery of which during the European Renaissance led directly to the development of the triumphant scientific cartography that swept the world in the wake of Western colonialism (Lewis and Clark, Livingstone, GIS).[20]

As we now acknowledge, this story is false in almost every particular. Although the oldest surviving uncontested map *is* Babylonian, this map is in no way the "ori-

gin" of mapmaking, which was originated as called for again and again around the world. Such maps as the Babylonians and Egyptians did make were not "built on" by Greek, Roman, or subsequent "European" mapmaking, most of which was independently invented and reinvented. Indeed, Greco-Roman contributions to the history of mapmaking have been unconscionably exaggerated: if ancient Greeks actually made any maps at all, none survive, nor do many even from the Romans.[21] In any case, most subsequent "European" mapmaking was in no way indebted to either of these, nor was "European" mapmaking ever the "scientific" enterprise it has been claimed to be. It was first and foremost a highly utilitarian managerial activity and second a profoundly ideological one, serving national identity-building, colonial, and other interests;[22] and it was preceded by similarly motivated mapmaking in China, and paralleled by it elsewhere in the world.[23]

Trying as most do to read the ancient and medieval record through the lens of contemporary mapmaking radically distorts the importance of maps for the administration of the great "historical" "civilizations" by assuming they must have done things the way we do them. This has not only led historians to assume that when people wrote about mapping they must have made maps, and that where one map survives a hundred must have been made, but to postulate *mapmaking* traditions where instead there were traditions of *cosmological speculation,* traditions of *property control,* traditions of *centralized management,* traditions of *military strategizing,* and perhaps others, including, for instance, the discourse function fulfilled by *geomantic site location*; but none precipitating *the idea of the map* that, for most readers of this book, is so "self-evidently" the common thread uniting them all. Other "maps" appearing in the historical record—almost all of which if they were made today we'd call drawings—likely played no part whatsoever in any of these traditions, but instead arose from isolated efforts by individuals to address unique problems: the laying of new drains, the defense of property at law. That is, such maps (or drawings) were based on no prior model and left no progeny, and so are akin to what geneticists call a *sport*; which explains why they are so hard to pigeonhole as, *precisely,* map, plan, drawing (a good example would be the plan and diagram of Canterbury Cathedral, c. 1153–1161[24]). As their existence and the rest of the record attest, mapmaking was a marginal activity for all these peoples, among whom the functions served by mapmaking today, *to the extent that they existed at all,* were served by other, typically scripted and/or numeric forms of inventory and control. This is to say that the historical record is spotty not because survival rates were low—which in any case is difficult to entertain given the higher survival rates for so many other, far less consequential artifacts—but because maps were infrequently made.

There Were No Maps before 1500

Okay, okay, this is obviously hyperbole, and it probably would have been better to have said there were no maps before 1400 anyway,[25] but I'm desperate to arrest the course of the insane idea bruited about—often by people who know nothing about it—that maps are this universal human construct; that they've been around since before recorded time (*since before writing*); that they stand outside history. Here, this

is typical: "The origin of the map is lost to history. No one knows when or where or for what purpose someone got the first idea to draw a sketch to communicate a sense of place, some sense of *here* in relation to *there.* It must have been many millennia ago, probably before written language,"[26] and sure, if "a sketch to communicate a sense of place" is what's at stake, *maybe* somebody did do that before people started writing. But what does "communicate a sense of place"—whatever that *means*—have to do with making a map? It's like, in this construal, there's no difference between a map and . . . *a landscape painting,* or a drawing of a landscape, or a sketch, say, one of those oil sketches by Willem de Kooning, *Rosy Fingered Dawn at Louse Point,* or one of Richard Diebenkorn's paintings of Ocean Park. And in histories that start off like this, all vaporous and prehistoric, why don't they follow that "sense of place" idea into landscape painting, into those murals the Romans made, into those landscapy fusions of poetry and painting of which the Chinese were masters, into the evocative backgrounds of Trecento Italian painting? Why instead do they all end up with the Casinis laying triangles across France, panting as Harrison invents the chronometer, and tracking the fathers of the U.S. Geological Survey across the West? Well, it's because they're writing about maps, *not* about "sketches that communicate a sense of place," and in the history of *mapmaking* the Casinis, Harrison, and the USGS all have a place, whereas landscape painting doesn't.

Look, I'm not saying maps had *no* role in human affairs prior to 1500, but that after 1500 maps began to play the role they continue to play today.[27] The decision to draw the line here is like Ian Hacking's drawing of the line for the birth of statistics at 1660. It's not that there hadn't been all kinds of precursors—the tossing of Sumerian knucklebones, dice throwing by Marcus Aurelius, 9th-century Indian theorizing about probability—but that, "We do not ask how *some* concept of probability became possible. Rather we need to understand a quite specific event that occurred around 1660: the emergence of *our* concept of probability." Why? Because "for me the search for preconditions is more than an attempt at historical explanation. I am inclined to think that the preconditions for the emergence of our concept of probability determined the very nature of this intellectual object,"[28] and therefore, he continues, the very nature of quantum mechanics, statistical inference, and inductive logic.

I think this is all just as true of maps. The point is not to know that some 12th-century monk was able to make a plan of his monastery—humans have had the *capacity* to do this since they were humans—but rather why no one felt it was worthwhile to follow up on his idea, to make a plan of the fields outside the monastery, a plan of monastic holdings, a plan of the route from Canterbury to Southwark, why the idea *died,* unlike the idea which, when developed in the 16th century, *didn't* die but rather flourished in the most astonishing fashion, took off, and *did* lead to the Casinis mapping France, Harrison operationalizing longitude, and Powell and King mapping the West; that is, not only didn't die but *took off with the state.*

What I'm saying is that for all intents and purposes, before 1500—okay maybe 1400, and maybe 1200 in the case of China—*people didn't make maps.* And that *that* is why uncontested maps more than 500 years old are rare at any scale from anywhere in the world.[29] Cosmographical diagrams *are* more common (they are nonetheless extremely rare), and large-scale plans more common still (though again the numbers are absolutely tiny), but prior to the 15th century small-scale geographic maps

are rare almost to the point of nonexistence in any cultural tradition except that of China, where they begin to appear in any numbers only in the 12th century.

But then *no* unquestioned map *of any kind* predates the second millennium BCE, vaporings to the contrary notwithstanding. Whether prehistoric humans made maps is uncertain because the interpretation of their artifacts is mired in controversy; though, if they didn't make maps, *it wasn't because they weren't able to,* but because the discourse function served by maps either was not called for, or was fused with other discourse functions in a synthesis not recognized as maplike today. Reputable scholars *used to* assert the *recently discredited* maplike qualities of the wall painting at Çatalhöyuk (6200 BCE),[30] and a similar case has been made for the petroglyphs at Valcamonica (2500 BCE) and elsewhere, but if prehistoric humans *did* make maps—which is very doubtful—they were neither made often nor in very many places; they likely served broadly pictorial, religious, ritual, symbolic, and/or magical functions; and their production was discontinuous with the practice of mapmaking encountered in historic populations.[31]

The oldest *extant* maps about which there is scholarly consensus are, as I've already said, Babylonian. Dozens of large-scale, Babylonian, cuneiform maps and plans survive from the second and third millennium BCE, but only a couple of small-scale maps survive, and these from the first millennium BCE.[32] The existence of the so-called Turin gold mining map from around 1150 BCE is the *sole* survival of a *putative* Egyptian mapmaking tradition of roughly similar age that otherwise is represented only by cosmographical diagrams and pictures of gardens, canals, and buildings.[33] Recent scholarship posits an Indic tradition of mapmaking stretching back to the first millennium, but the earliest extant artifacts are an allegorical wall sculpture from about 400 CE and a Jain cosmographical diagram of the 13th century CE. There is textual evidence of a Hindu tradition of cosmographical globe construction dating from the first millennium BCE, but again no actual globes predate the 15th century CE.[34] In China three maps survive from the second century BCE, but few others until the 12th century CE. Evidence also suggests a Tibetan mapmaking tradition rooted in the first millennium BCE, though again, with the exception of a mandala transmitted to Japan in the ninth century CE, no survivals predate the 18th century.[35] Textual evidence also supports a Hellenistic mapmaking tradition, but as I have said no maps survive of any character. Except for medieval European copies of Roman itineraries, no small-scale Roman maps survive, despite the elaborate instructions for producing them in Ptolemy's *Geography,* and even large-scale survey and property maps do not exist in abundance.

That is, with respect to the ancient world there are many more textual *suggestions* that something *like* mapmaking was carried out than there are surviving artifacts, the numbers of which, with the exception of Babylonian and Roman plats and surveys, *may be counted on toes and fingers.* That is, mapmaking was comparatively widespread but everywhere uncommon to the point of nonexistence.

The record is not much different for the medieval period. Islamic scholars elaborated sophisticated theoretical schemes for the construction of maps from the seventh century on, but if any were made, none survive from periods prior to the 10th century, and maps remain rare until the 15th and 16th centuries.[36] In medieval Europe handfuls of cosmographical diagrams and large-scale plans are extant from the seventh century, but with the exception of the late medieval portolan charts, maps were otherwise unknown.[37] There is textual evidence of relatively small-scale

mapmaking in Japan as long ago as the seventh century CE, but again, nothing survives; maps of state allocations of arable property are extant from the eighth century, but no maps are common until the 16th.[38] Textual evidence supports a mapmaking tradition in Vietnam as early as the 11th century, but again no artifactual maps predate the 15th century.[39] The oldest surviving Malay maps are from the 16th century.[40] No Mesoamerican maps predate the Conquest, though again there is ample reason to assume a preexistent tradition of cosmographical diagrams and some evidence of limited property (or "community") mapping among the Nahua, Mixtec, Otomi, Zapotec, Totonac, Huastec, Chinantec, Cuicatec, and Mazatec.[41] No indubitable maps made prior to the 15th century survive from sub-Saharan Africa, South America, Australia, Oceania, or North America, though in many places the record was systematically destroyed, and historical research may yet uncover evidence of mapmaking traditions unknown today.[42]

Despite these lacunae, the record suggests that large-scale plans of property and small-scale cosmographical diagrams were made rarely, but with increasing frequency, everywhere in the world since the third millennium BCE. Other minitraditions seem to develop often, only to die out again, except in China, but the limited number of extant artifacts makes abundantly clear how tenuous a hold these discourse functions had in the notational repertoire of any of these societies.

The significance of these data is obvious. Human societies didn't need maps and got on handily without them for hundreds of thousands of years. But during the last two or three millennia BCE, larger, more complicated societies including Babylonia, Egypt, perhaps the Indic societies centered on Mohenjo-Daro and Harappa, and China began to articulate graphic notation systems, sporadically and apparently independently, but *among and continuous with other indigenous textual productions,* memorial inscriptions, memory aids, almanacs, genealogies, inventories, histories, and descriptions of routes and territory (in mixtures of sculptural, pictorial, pictographic, syllabic, consonantal, and/or alphabetic forms) that linked location with rights and obligations (as in the large-scale property maps) and with speculative attributes of the larger environment (as in the cosmographical diagrams). Similar graphic notation systems filling related social functions emerged fitfully in other ancient civilizations, again apparently independently, although extensive trade and other connections among these groups are acknowledged and cultural exchange undoubtedly took place.

The articulation of similar notation systems in so many of these societies strongly supports the notion that map discourse functions of this character inevitably emerge in societies whose increasing size and complication call for them (the specialization required for making maps demands a population of at least the size maps permit to function), of which, again, the best example is China. But the sporadic nature of this articulation no less strongly suggests that at the size and degree of complication reached by most ancient civilizations, the map discourse function as it has come to evolve *could be satisfied by other, better-established discourse functions* (generally scripted and/or numeric), so that the map discourse function failed to establish itself no matter how many times it was seeded. The map discourse function is nowhere well rooted until the rise of the early modern state (which in China may mean the Song), with which it coevolves as an instrument of polity, to assess taxes, to wage war, to facilitate communications, and to exploit strategic resources.

Calling Older Graphic Notation Systems "Maps" Is Anachronistic

While it is not "wrong" to refer to these earlier graphic notation systems as maps, it is anachronistic. It is critical to accept, as already intimated, that these graphics were not emitted *as maps* by those who made them. To imagine this would be to see them through the conceptual filter created by modern mapmaking. For instance, early "map" artifacts were generally free of the *heightened* "spatiality" so characteristic of what most people think of as maps today, and there is *zero* evidence that they were discriminated from other graphic-textual productions on this ground. Until modern times, no society distinguished—*or made*—such maps as distinct from religious icons, mandalas, landscape paintings, construction drawings, itineraries, and so on.

For example, the Chinese word *tu,* frequently translated "map," can also be translated "picture," "diagram," or "chart," and *tu* of "geographical" subjects may have had poems painted on them as was common on "paintings" of other subjects. This not only reflects the conceptual continuity that in the past tied together the Chinese practices of what today even the Chinese think about as discrete genres ("painting," "mapping," "drawing"), but the unique synthesis of painting, calligraphy, and poetry that so effectively distinguished, say, Ming painting from that of the European Renaissance (that, say, of Wen Cheng-ming from that of Michelangelo[43]). This synthesis lent Chinese *tu* an explicitly expressive character inconceivable in 20th-century conceptualizations of mapmaking, even in China.[44]

Such inclusiveness characterizes other words frequently translated "map," including the Arabic *naqshah* (painting, any kind of visual representation), its Indian derivation *naksha* (picture, plan, general description, official report), the Sanskrit *chitra* or *alekhya* (painting, picture, delineation), the Latin *mappa* (cloth) and *carta* (formal document), the Mexican *lienzo* (linen, cloth, canvas), and the Aboriginal-Australian *dhulaŋ* (painting, map, diagram, graphic representation). Not only do these broadly inclusive terms not draw the distinctions among types of graphic production made by contemporary map-using populations, but they refer at the same time to graphic systems that mingled what most of us carefully keep apart.

For example, Mesoamerican *lienzos* did not privilege space as our maps do, but rather drew history and territory together into "community maps," though from their perspective the Mixtec might have said that they did not rip history and territory apart. Were such a discourse function to exist today we'd probably want to call it something like a *pictorial genealogy* or a *map-history* since where the Mixtec made do with one discourse function, we insist on using three or four: plat, deed, title search, genealogy.[45]

Another example: Jain cosmographical diagrams mingled the mundane places that most of us would look for on a highway map with places where "Release" is possible, places contemporary cartographers would not even locate in "space." In this way the Jain constructed, as Collette Caillat and Ravi Kumar put it, "a gigantic theater where transmigrations and reincarnations take place." Unlike the artifacts that most of us think about as maps—artifacts that discourse about the socio-spatial territory we mutually inhabit—Jain cosmographical diagrams discourse about . . . *destiny,* and are best read using a "purely *spiritual* cognition."[46]

A third example: in their cosmographical diagrams, medieval Christian Euro-

peans fused the historical commitment of the *lienzos* with the teleological orientation of the Jain cosmograms to create, in David Woodward's phrase, "a visual narrative of Christian history cast in a geographical framework."[47] Again, most of us would break this out into separate discourse functions, painting, say, and history, and maps.

None of these ways is better or worse, or more or less "advanced," but they *are* differentially capacitated to facilitate life in populations of different sizes, with different rates of social and geographic mobility, and different degrees of labor specialization and hierarchic integration. Breaking up discourse functions facilitates specialization, which in turn supports hierarchic integration. This in turn permits higher rates of growth and mobility without loss of social integrity. It's not a question of quality, or even utility; there is . . . no *contest.* The *lienzos* served the Mixtec, as their cosmographical diagrams did the Jains and the medieval Christians, every bit as effectively as topographical surveys and other maps serve the interests of the modern nation-state.

The discourse functions a society evolves, chooses, or has forced on it depend on what kind of society it is. Ultimately, what's at stake are the differences in organization and structure that in the cases of the Mixtec, Jain, and medieval Christian called for pictorial genealogies and cosmographical diagrams, but in the case of modern states call for topographical surveys and the construction of the *institution* of cartography that such surveys seemingly entail.

The Rise of Mapmaking in the Early Modern State

The deal is this: few *if any* of the graphic notations produced in ancient or medieval civilizations would be considered maps today, whether we spell that *map* (as in the United States), *mapa* (as in Mexico), *carte* (as in France), *kharitah* (as in Turkish or Arabic), *mana-chitra* (as in Eastern India), or *chizu* (as in Japan). The things we recognize as maps gained currency only in the last 400 years or so, and within this period only in relatively stable states with entrenched, centralized bureaucracies and well-established academies.

Though in 1400 few people used maps, by 1600 people around the world found them indispensable. There is a divide here that is impossible to evade. Recall the dates at which maps *really* begin to appear in the historical record: Islamic artifacts may date to the 10th century, but maps don't become common until the *15th* and *16th* centuries; the oldest surviving map of China may be from the second century BCE, but maps aren't common until the 12th and only become abundant in the *17th* century; large-scale Japanese maps may survive from the eighth century, but national and provincial maps only begin appearing in the late *16th* century and are not common until the *17th*; the oldest surviving Hindu globe is from the *15th* century; Vietnamese and European maps become plentiful only in the *15th* and *16th* centuries; Mesoamerican maps survive largely from the *16th* century; Malay maps from the *16th* century. Again and again we find large, centralized societies, everywhere in the world, inaugurating mapmaking traditions as part of their transition to the early modern state (again, a transition China may have begun in the Song).

For mapmaking, this transition has had the recent attention of scholars working in Japan, China, Thailand, Russia, Europe, the North American colonies, New

Spain, and elsewhere.[48] And there is reason to believe processes similar to those documented were at work in every society struggling with what was a more or less common socioeconomic transformation no matter how distinctive the trajectory. There's no question that the nascent European mapmaking tradition was transported around the globe; but its ability to *import* material from other traditions (well documented, for example, in the cases of Islamic, Chinese, and Japanese mapmaking) and the *ease of its apparent adoption,* actually argues for a *merging* of mapmaking traditions that today we're prepared to acknowledge as having been at equivalent levels of development, a merging into a kind of *transnational* or *worldwide* tradition that differentiated not Europe from the rest of the world, or West from East, but modern and increasingly map-immersed nation-states from the smaller map-free societies out of which they'd emerged and which in any case they would soon enough gobble up.

Intriguingly, the functions the new maps initially served were not those that might strike us as obvious. Roads, for example, were not an important subject. Nor were the state functions maps did initially serve newly created in the 15th century. Rather, they were functions that had been previously served by scripted forms or by talk. For example, writing in 1602 about the tactical situation in the mountain passes to Henry IV (of France), the duc de Lesdiguières noted that "Your majesty will understand much better than I can set it out in writing, if [you] will look at the map of Dauphiné with the Piedmont border";[49] while Michelangelo complained that if only the Hapsburg emperor, Charles V (r. 1519–1558), "had ordered a drawing to be made of the course of the river Rhône, he would not have met with losses so severe, nor retired with his army so disarrayed."[50] Charles in fact did use maps, extensively. About the very battle to which Michelangelo referred, another observer wrote of seeing Charles "studying the maps of the Alps and the lower region of Provence so enthusiastically that the emperor had convinced himself that he already possessed the land in the same way he owned the map."[51] More generally, Marshall Vieilleville observed in the 1560s, apropos the campaigns of Henry II of France, that "a military commander must no more move without a map than a pilot or galley captain, unless he wants to court disaster";[52] though the most general admonition seems to have been Castiglione's of the 1520s to the effect that there were "matters, the which though a manne were liable to keep in mynde (and that is a harde matter to doe) yet can he not shew them to others" without a map or painting.[53] While these anecdotes illustrate the growing currency of maps in the early modern period, they also underscore their novelty. The anecdotes seem to catch a more comprehensive discourse function—could we call it "describing"?—*in the very act of differentiating,* and they presage a very steep increase in the use of maps for military, administrative, and speculative humanistic purposes.

Why? What was it that happened after 1400 that called people to start making maps? The canonical answers, with their focus on so-called scientific mapmaking and their dependence on the presumption of a European exceptionalism, obviously can't account for the precedent developments in China or the parallel ones in Japan and elsewhere. But they're largely irrelevant even for Europe. These canonical accounts have always focused on the small-scale mapping of the world and the heroic growth of European knowledge, a story that accounts for *none* of the eruption of large-scale mapmaking that produced the vast bulk of the new maps in Europe.

Consider the northern Italian plains. Extant maps predating the 15th century

can be counted on the fingers of one hand, but in the 16th century mapmaking for border control, for water management, for treaty negotiations, and other such uses . . . *explodes.* There's no other word for it.[54] In the case of Venice, less than a single percent of the *10,000 maps* archived by the Venetian state predates 1565. In the case of Florence, only a dozen maps among the *10,000* archived by the Florentine state predates 1565, and the bulk of them, devoted to property control, date from the 17th century. The offices commissioning most of the vast Milanese archive of over *76,000 maps* were all founded in the 16th century: Acque (16th century–1801), Acque e strade (1574–1801), and Confini (1518–1802). Identical accounts can be given for the Papal States and for Naples: *minuscule* numbers of maps before 1500, but afterwards . . . a cornucopial abundance of mostly large-scale administrative maps.

Identical accounts can be given for the rest of Europe. In England where the history of medieval mapmaking is particularly well known, scholars have identified no more then 35 domestic maps produced before 1500. Yet in 1540, Henry VIII had available to him maps for a wide variety of purposes; in 1574 Christopher Saxton began publication of his atlas of English counties, and in 1593 John Norden began the publication of his series of county topographies. Indeed, such a mass of maps (and other papers) had been generated during the 16th century that a State Paper Office had to be established in 1610 to marshal them.[55] In France, where only 10 domestic maps have been found that predate 1500, maps began to be used for military purposes early in the 16th century, and their use expanded rapidly until, by the time Henry IV's reign ended (r. 1589–1610), the country had been more or less systematically mapped. Mapmaking took such strong root in France during the 16th century that by 1663 Louis XIV and his chief minister, Colbert, could envision using maps for military and naval purposes, for making political and judicial decisions (especially about jurisdictions, an obvious use today), for economic and financial planning (mines, canals, fiscal divisions), and for establishing the boundaries of ecclesiastical dioceses. By then there were also plenty of presses capable of printing and distributing maps of every size and character.[56]

Similar accounts—which in Europe can be repeated for the Spain and Austria of the Hapsburgs, the United Provinces of Maurice of Nassau, the Sweden of Gustav Adolph, and the Poland and Lithuania of Mikołaj Krzysztof Radziwiłł[57]—can also be given for emergent states elsewhere in the world. The case of Japan is exemplary. Extant maps from classical and medieval Japan are sufficiently numerous (well over 200, according to the latest scholarship) to suggest that Japan had one of the most robust "mapmaking" traditions in the premodern world.[58] Certainly no European polity has anything like its record to display. Though, as we've seen, most of these extant maps are large-scale plans of local property holdings (again, dating from the eighth century), there *is* a small-scale map of Japan attributed to the Buddhist priest Gyōki that is believed to have been made during the early classical period. Although Gyōki-type maps were occasionally reproduced in medieval times, there is no evidence after the ninth century of either resumed national surveying or of efforts to revise the classical prototype. The possibility does exist that a second national mapmaking effort took place in the late 12th century but, again, if any such maps were actually drafted, none survives. Then, as we know, all of a sudden in 1591 Toyotomi Hideyoshi orders all daimyo to submit summary cadastral records and maps for the construction of a countrywide cadaster; his successor, Tokugawa

Ieyasu, repeats that order only 13 years later; and other surveys rapidly follow. In the late 1630s a national map that had been assembled from provincial surveys was released to commercial printers and they issued it as a woodblock atlas. By the late 17th century, literally *thousands* of Japanese maps covering, as Mary Elizabeth Berry puts it, "virtually every domestic subject and in virtually every format," had issued from government offices and commercial printers.

A different story, but to a similar end, can be told about Russia beginning with Ivan IV (r. 1533–1584), with respect both to the large-scale mapmaking involved in Muscovite property litigation and to the small-scale mapping of Siberia; about the mapping of New Spain; and about the late 17th- and early 18th-century mapping of British colonies in North America.[59] Indeed, variants of the story can be told about every corner of the globe. As Valerie Kivelson has put it, "Medieval societies rarely produced maps. This generalization holds historically throughout Eurasia, from England to Japan. Mapping was not a routine part of any official transactions or procedures in medieval times," and this can be expanded to the rest of the world.[60] Yet only a few years later, maps were not only routinely used in any number of government operations, but they were being made in mind-boggling numbers.

The explanations for this explosion in mapmaking vary, of course, from place to place. In the case of Italy, for example, a quantitative analysis argues that "three discontinuities—times of increased mapping production—stand out: the late fifteenth century, the mid-sixteenth century, and the late seventeenth century," each of them marked by both increased rationalization of bureaucracies and pronounced upturns in the economy, most notably the "Italian Indian summer" of the 15th century and the late 17th century's recovery from its long economic crisis.[61] In the Japanese case, Berry draws attention to the simultaneous disorientation and reorientation that characterized 16th-century Japan: "On the one hand, warfare wiped out not only the geography of the medieval polity but many of the petty lordships formed in its wake. Sweeping campaigns and mass transfers made governors into strangers in their own lands. On the other hand, administrative change advanced a model of integration," and Berry also draws attention to the importance of a spike in urbanization.[62] Russian mapmaking, Kivelson argues, "allows us to invert the way we have come to imagine the relationship between central state mapping projects and local interests," pointing out that "in an immense, unmanageable land where centralization could never have set roots without the participation and support of local communities, maps brought local knowledge to the service of the central state."[63] The general implication that mapmaking emerges as a rationalizing tool of control during periods of relative or increasing prosperity in early state economies is broadly supported as well by the evidence from the Hapsburg, Bourbon, and Tudor realms, from Southeast Asia, and from the North American English colonies.

Maps Figure the State

What's interesting is that all the bureaucratic functions fulfilled by the maps during this period *could* have been carried out in other ways, as they largely had been during the later Middle Ages. As the historians of cadastral mapping, Roger Kain and Elizabeth Baigent, remind us, maps are not indispensable even for cadasters, noting that even today there is no comprehensive map-based cadaster for states

like Norway or the United Kingdom where there is every reason to expect one.[64] Attempting to explain what prompted the adoption of cadastral mapping by so many states during the early modern period, Kain and Baigent point out that "conviction of the merits of mapping was a precondition for mapping itself."[65] This is actually a theme—variously put—in much contemporary scholarship, where a particularly significant merit was the ability of the map to figure the new state itself, *to perform the shape of statehood.*[66]

It's important to remember that if the map was a novel function during the 15th, 16th, and 17th centuries, so was the state. Although today we take the state for granted—exactly as we do the map—nothing like the modern state existed in earlier periods. 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 did not derive directly from any of them. Although—again like the map—the state is more readily exemplified than defined, experts on the state can 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.[67] Evolving from a period in which loyalty had been offered to one's lord, to one's immediate community, and to one's family; and in which loyalty 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 new forms for its embodiment.[68]

Contemporary scholarship is unanimous that the map possessed an all but unique power to give the elusive idea of the state concrete form, to those outside looking in, certainly, but also to those living within. Martin Brückner has recently urged that "ever since Abraham Ortelius and Gerard Mercator published their world maps and atlases in the sixteenth century, single-sheet maps had presented the sovereign states as visually and territorially unified constructs."[69] More particularly, Kivelson argues about 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."[70] Berry argues about 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."[71] Tom Conley points to the importance of the map in negotiating an emergent self's relation to the emerging idea of national space in early modern France.[72] And Brückner argues about the young United States 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."[73]

The maps also spoke to outsiders, as in the case of Qing China where Laura Hostetler has argued 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";[74] 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."[75] Similar conclusions have been reached with regard to early

modern—and even much later—mapping programs in France, Thailand, and elsewhere.

The most striking feature of all these assertions is their persuasion that the map was an artifact that *constructed* the state, that literally *helped* to bring the state into being. It's almost as though it were the map that in a graphic performance of statehood conjured the state *as such* into existence: out of the disjointed rabble of the American colonies, out of the far-flung possessions of Chinese emperors, out of the territories of the recently warring daimyo of Japan, out of the disparate peoples of tsarist Russia, out of the . . . *jungles of British Guyana*.[76]

Thongchai Winichakul has termed this map-made construct the *geo-body* and has characterized the emergence of Thailand's geo-body as "a victory of mapping."[77] The geo-body is produced by mapping in three distinct but interdependent ways:

> 1. In the first place, the very act of mapping requires that the state be something mappable, that is, a *thing,* with edges, which is to say, a geo-body, with borders, which Thailand, as was common everywhere until the 17th-century spread of mapmaking, really didn't have.[78] State borders are brought into being through mapping, both by the imperative *to be mapped* and *through* the medium of mapping.
>
> 2. Second, these borders establish a shape, the shape of the nation, the nation's visual form; and this mapped shape rapidly becomes iconic, totemic, "the map-as-logo" as Benedict Anderson has put it.[79] For example, in the young United States where the national map permeated American material culture, maps of the new nation were prominently featured in portraits (where the maps stressed the sitters' identities as Americans), decorated the walls of American homes and schools, were integrated into textbooks and didactic puzzles, and were displayed in public offices, coffee houses, and taverns.[80]
>
> 3. Third, the map through its presentation of the state *as an existent thing* obscures the origins of the state *in history,* in effect assuming, and so projecting, the prior existence of the geo-body. This was especially useful for colonial regimes that claimed to "inherit" ancient geo-bodies, which the colonial regimes then *constructed* 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.[81] This in turn promotes rhetoric about the inviolability, and so the necessity of defending borders, which returns us to the first way maps produce the geo-body.[82]

It was these interlocking benefits—creating the geo-body, giving form to the state—that convinced leaders of early modern states of the general merits of mapping, and that constituted the necessary precondition called for by Kain and Baigent.

Large-scale property mapping may seem far removed from these sorts of national considerations, but the fact is that large-scale property mapping, state-scale mapping, and small-scale regional and world mapping were reciprocally supportive. In Japan, for instance, Hideyoshi conceived of mapmaking as a localized and incremental program which, while an undoubted expression of state control, was more importantly, *an instrument of conversion* through the collaborative, ongoing labor itself: "Precisely because union was fractious and unfamiliar, cartography

served the conquerors by instilling a fugitive idea of cohesion, not by reflecting any palpable reality. . . . In this way Hideyoshi and his successors not only normalized a nascent polity but invented, and instructed countless participants in the very imagining of 'our country.'"[83] In Russia, too, the unabashedly local maps made during litigation over property "represent the authority of the central state in the provinces. They exhibit the skill of the central state apparatus at extending its influence and bringing its routinized practices and language to the local arena. The interests of center and periphery intersect in the use of the maps."[84]

Whereas large-scale, local mapping invokes the state's authority, small-scale mapping allows the state to emerge with sharper focus when it can be posed against the images of other states in a world context. In Japan's case, Jesuit maps brought about a heightened consciousness of "our country" by depicting alien worlds, or, as Berry has it, "A 'Japan' assumed its strong cartographic profile as attention to the globe and lands that were 'not Japan' reoriented the geographical imagination."[85] And in the cases of Russia and China, Kivelson and Hostetler have both stressed the mutual awareness that maps helped provoke. Russian envoys to the Qing court began making maps of China as early as 1682; and later the Kangxi emperor made a gift of the atlas he'd commissioned of China to Peter the Great, both to impress the tsar with the state-of-the-art science the Qing emperor patronized and to display Qing claims to territory. Examples of this sort of cross-scale reinforcement of the "reality" of the state can be multiplied almost endlessly as states proliferated in the 19th and 20th centuries. In India, for example, and Israel, states scarcely 60 years old, identical patterns of map use can be found.[86]

As the Map Affirms the State, the State Affirms the Map

What cannot be overlooked is what gave maps their ability to embody this novel entity in the first place. Since scholars are unanimous that maps helped to bring the state *into being*—that maps helped *construct* the state—it certainly can't be the map's putative ability to "represent a part of the earth's surface." After all, it was the maps that *conjured up* borders where none had existed (especially well documented for the United States, Russia, Thailand, and colonial British Guyana); the maps that *summoned* unity from chaos (as we have seen for Japan, Russia, and the United States); the maps that *enrobed* the shapeless (as in the case of China); that is, the *maps* that endowed with form what from the beginning had been no more than a dream (the dream of every early modern state).

But then, thinking about the map as a representation had always been a mask, a cloak, a way of making the *creative* aspects of mapmaking . . . disappear. From their inception it had been essential that states appear as facts of nature, as real enduring things, things like mountains; and at all costs to obscure their recent origins in violence and their tenuous holds on tomorrow. And maps were able to grant this precisely because maps too had been constructed as facts of nature: "We no more than show what exists," said the maps (even today they say this about the borders between Pakistan and India, Israel and Palestine, India and China). What maps thereby *avoided* saying was, "Exists, yes, but only on these maps which, in fact, create and affirm their existence," even as the maps created and affirmed *their own existence,* most effectively by hiding their own recent origins . . . in the state itself.

But then, this is what maps do, affirm the existence of the things on them. "This is here," maps say, "and that is there," as they do so simultaneously affirming the precedent existence of whatever is in question (the *this,* the *state) and* its location (the *there,* its *borders*). Such affirmations constitute powerful existence claims. When asserted about the Front Range of the Rockies or the range of the pin oak tree, such claims may *seem* unproblematic, but their overtly political and therefore problematic character can hardly be overlooked when they establish nation-states, electoral districts, and school attendance zones, in which cases maps in no way *report* but baldly *propose* states of affairs (which we'll later see is also true for the Front Range of the Rockies and the range of the pin oak).

In effect, maps are systems of propositions, where a proposition is nothing more than a statement that affirms (or denies) the existence of something. As such, maps are arguments about existence.[87] And if they began by arguing for the existence of paddy fields, long fields, and manor lands; the nation-states the fields came to compose; and the world composed by the nation-states, maps have gone on to a long career rich in the affirmation of the existence of a bewildering variety of things, the island-continent of California, for instance, the Great American Desert, and the open polar sea.

What these have in common with geologic strata, frontal weather systems, and the hole in the ozone is that they're all *very hard to imagine* without the creative intercession of the map. It's salutary to remember that this too is what nation-states once were, *very hard to imagine without the creative intercession of the map.* How did Brückner put it? "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." By arguing for the nation's existence with all the facticity at its command, the map turned the fiction . . . into a fact.

When, several pages ago, I said that most speakers of English use "map" in a straightforward way to describe an artifact that selectively links places in the world (*there*s) to other kinds of things (*this*es), I deliberately failed to draw attention to the propositional character of the *this*es and the *there*s, since it's the map's refusal to acknowledge its propositional character—its propensity to cloak its propositions in facticity—that made maps useful to the early modern state in the first place and that, for precisely this reason, heavily promoted their use. Propositions supported by evidence and argument, even propositions simply sufficiently often *repeated,* soon enough solidify into facts, and facts are what states were most eager to solidify into.

In saying "fact," what I'm referring to is a class of propositions that seems to lack the *provisional* quality we expect of our propositions. Though the world's sphericity is eminently a proposition, it doesn't feel like one. It feels like something that can get along quite well without our affirmation. It feels like a fact. Continents have a similarly "factual" feel to them, though the size thing is frankly arbitrary, and exactly why Europe and Asia are separate continents has always been a mystery.[88] Coastlines feel like facts too, especially on small-scale maps, though it's much harder to say what coastlines actually are when you get closer to them. Yet despite some hesitation and blurred edges, all these things seem to transcend any "propositional" character, seem to possess an unalterable existential quality, seem to be things you can point to today confident of being able to point to them tomorrow.

Which is what states aspire to be, things you can point to tomorrow; and though they aren't, maps give them this reassurance. Remember learning the countries in school? The blank outline maps? The crayons? Filling the names in on the tests? Well, things have changed since then. Remember Yugoslavia (not the Kingdom of Yugoslavia, 1918–1941, but the Socialist Federal Republic of Yugoslavia, 1943–1991)? Czechoslovakia (1918–1992)? The Soviet Union (1922–1991)? Remember when Pakistan and Bangladesh were one country (1947–1971)? And Egypt and Syria (the United Arab Republic, 1958–1961)? Even our own vaunted claims to stability are hard to sustain. In historical terms the country's still young, its borders have never stopped changing, and . . . wasn't our bloodiest war, more than *700,000* dead, fought against a breakaway faction, the Confederate States of America (1861–1865)?

Though maps don't describe states as propositions advanced against the tide of time, they are, like everything else on maps (see the next chapter).

When a few pages back I said, "maps selectively link places in the world (*there*s) to other kinds of things (*this*es)," I added, "for the purpose of underwriting the reproduction (or contestation) of the social relations of power," since the capacity of maps for ignoring construals of reality alternative to those they propose—along with the facticity they thereby project—substantively underwrites the reproduction of the social relations of power. One way they do this is by absorbing change. This was really critical for the continuously evolving early modern state, but it remains important for states today. Maps absorb new data into apparently timeless frames, and thereby damp down the threat of disturbing novelty. Berry has observed how the issue

> is succinctly conveyed in the phrase "newly revised," which became a commonplace in the titles of the information library [of 17th-century Japan]. The words insisted that something new in a text was new enough to merit special attention, though not quite new enough to merit a fresh beginning. Something fundamental survived—something susceptible to revision rather than reimagination.

"Expectation," Berry goes on,

> remains the most powerful preservative of models. Mapmakers and map users learn to expect the kind of maps they are accustomed to seeing. In the end, then, the strength of models is the facility to frustrate, as either unthinkable or perverse, the revision of their underlying conceptions. An alternative representation of Edo [Tokyo] would have required not so much new evidence as a new vision. Had commercial mapmakers accorded privilege to commercial wards rather than martial mansions, they would have projected a rival plot: this is a financial and mercantile capital (say), administered through the neighborhood associations of townspeople, where entertainment is a major enterprise. For that leap, they needed no fresh data. They needed a radical philosophy.[89]

Maps Unleashed

But radical philosophies have never been the hallmarks of any of the big mapmakers: governments, commercial map houses, or academies. On the other hand, *big* mapmakers were never the *only* mapmakers. As systems of propositions, maps

are necessarily composed of signs (the propositions are embedded in signs), where signs are unions of signif*ieds* (the subject of the proposition, say the *state*) and signi*fiers* (the marks put down on the paper, say the *lines* supposed to be the borders). The signifieds and the signifiers are united by a code. In school we're taught to look for this code in the legend—a star means a capital—but the legend only displays the top part of the code, the part of the iceberg above the water. All the submerged part, *that* part of the code is taken for granted: the way locations on the map refer to locations in the world, the way the words work (words and letters themselves are signs), the way the lines work (and that they work in different ways, the lines *around* the map in one way, the lines *on* the map in others). These relationships, between the signifieds and the signifiers, are wholly conventional—essentially arbitrary—so that the connections between signifieds and signifiers are, for all their taken-for-granted quality, never secure. And from the beginning the signifiers have been slipping their moorings.

What this meant was that from the beginning they could have a life of their own independent of the needs of the state or the interests of property—or even of a commitment to represent the world—and they began to live it immediately. For example, as early as 1516 a map of an imaginary island was published as the frontispiece to Thomas More's *Utopia* (Figure 1.3). It was probably too early to expect this to be called a map, and besides the book was in Latin so it's called, "Utopiae Insulae Figura," but it's quite map*like*. The extremely high oblique perspective is underscored by the ships in the foreground and in the background by the mainland which is seen almost head-on. With the buildings in profile the island has an almost axonometric feel.[90] Over the next 450 years the use of maps to lend credence to imaginary places would explode, and with the publication in the middle of the 17th century of Madeleine de Scudéry's *Carte de Tendre* in *Clélie* (10 volumes, 1654–1661), the door was opened onto the instantly popular world of allegorical maps (the "Map of Tenderness," the "Map of the Realm of Love," the "Map of Marriage," the "Map of the Realm of Coquetry").[91] Jeffrey Peters has drawn attention to the way these maps drove wedges between signifieds and signifiers: "Scudéry, I have been arguing, reformulates the notion that maps convey an objective form of absolute and complete knowledge by creating her own map that multiplies rather than reduces the field of meaning. The explicitly allegorical language of *Clélie*'s map is designed to open up a gap in meaning between the signs that cover its surface and the signified knowledge that is produced in its name."[92]

Both imaginary and allegorical maps proliferated. In the later 17th century Johann Andreas Schnebelin wrote about, and Johann Baptist Homann made maps of, the utopian Schlaraffenland.[93] A couple of decades later still Matthaus Seutter was mapping an "Attack of Love."[94] In 1726 Jonathan Swift famously published *Gulliver's Travels* with its maps of Lilliput and Houyhnhnms Land.[95] Almost as famously Robert Louis Stevenson published his map of Treasure Island in 1883.[96] In the 20th century the allegorical map stream dwindled, though it very much trickles into the present. Katharine Harmon not only illustrates a nice variety of these maps in her *You Are Here: Personal Geographies and Other Maps of the Imagination,* but constructs her book's acknowledgments—"The River of Gratitude"—as an allegorical map of a kind devised by Louise van Swaaij and Jean Klare for their *The Atlas of Experience.*[97] On the other hand, the mapping of imaginary places swelled into an Amazon at flood. The potent examples of E. H. Shepard's maps of the "100 aker wood" and

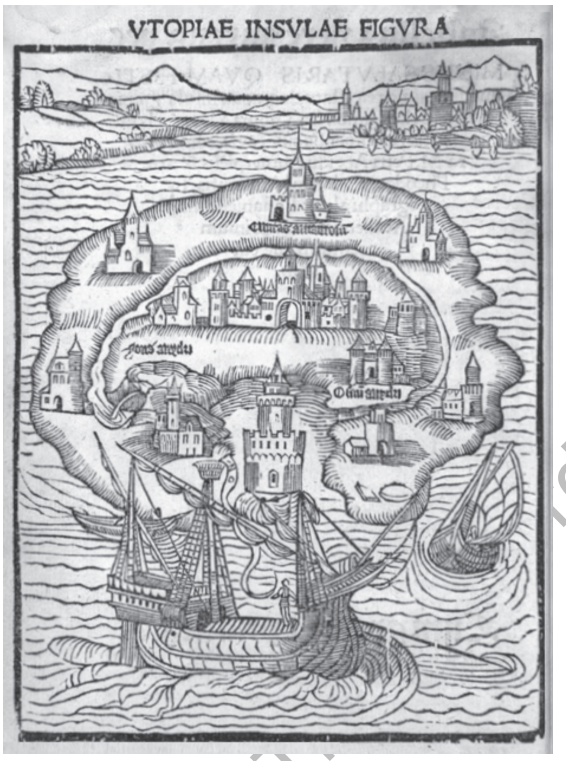

FIGURE 1.3. Utopia, as visualized in 1516. Thomas More's Utopia from the original Louvain edition. It's not quite a map, but it's not quite not a map either. It's early, but clearly moving toward the map. (*Source:* Newberry Library)

Toad Hall,[98] and especially J. R. R. Tolkien's maps of Middle-earth in *The Hobbit*, and his son Christopher Tolkien's maps in *The Lord of the Rings*[99] inspired everyone with a pen—or a mouse—to start making maps of imaginary worlds, maps which turned into game boards (see *Dungeons and Dragons*), which in turn evolved into map-based video games, like *Grand Theft Auto*, and so into massively multiplayer online role-playing games like *World of Warcraft,* that is to say . . . into an enormous industry.[100] And while I was writing this, Marvel Comics (Spider-Man, the X-Men, Wolverine, the Fantastic Four) published a *Marvel Atlas* of its Marvel Universe, yes, with old Afghanistan, Australia, Austria, and so on in it, but with Carnelia, too, and Carpasia, Latveria, Lemuria, Madripoor, Rumekistan, Sin-Cong, and Vorozheika together with large-scale maps of cities like Doomstadt and Polaria.[101]

Even as these heterodox uses of maps were expanding, others were evolving that on occasion refused to exploit even the propositional character of the map—uses that were capable of consuming maps whole, almost as *free signifiers.* This was the world of map art, initially unleashed by the spirit and practice of collage in the years following World War I as Dadaists and Surrealists began to use maps in their work.[102] Since then Letterists, Situationists, Pop artists, Earth artists, Conceptual artists, Fluxus artists, and others in ever growing numbers have found in the map a congenial object, a fruitful subject, and/or a productive method. Today it's hard

to keep track even of map art exhibitions, so numerous have they become, and art about maps, of maps, and resulting in maps, fetches insane sums at auction.[103]

Whatever all this is about—and it's about many things—it's clear not only that it makes a mockery of the traditional claim that maps are in any sense "a representation of a part of the earth's surface," even as it illustrates, indeed illuminates, the map's propositional character; but also that it makes a mockery of any idea that the state and its interests so monopolize the map that it cannot, and has not been released to other functions.[104]

Just as the characteristic alibi of the map to be an aid to navigation obscures its use in framing the state, bounding jurisdictions, and controlling property, so the idea that it does *nothing else* obscures the map's use as . . . something to tuck under a dresser to keep it from wobbling. It's bootless to pretend that the map grew to its contemporary prominence for some purpose other than underwriting the reproduction, if increasingly the contestation of the social relations of power; and it would be silly to overlook the prominence of the state in many of the map's alternative roles. It's hard, for instance, to miss the state in More's *Utopia,* in Swift's *Gulliver,* in Marvel's Universe, or for that matter in much of the map art that was created during the 20th century; nor is it hard to argue that playing with mapped states only *strengthens* the authority of states on the normative map.

But it would be equally silly to pretend that the state's stranglehold on the map isn't weakening. Cartography, the state's apparatus for training and constraining mapmakers, is certainly dead,[105] and it doesn't look as though the professionals and academics are going to be able to repeat the "cartography" ploy with GIS, computer, and Internet mapmaking try as they might.[106] That genie seems to be very much out of the bottle, even when it has also to be confessed that much of this amounts to little more than sticking map pins onto Google Maps, a faithful servant of the state if ever there was one. Even so, it's astonishing how many people are taking to mapmaking and the things they are mapping. And many of the maps they're making are extraordinary and powerful.

The map was *not* founded in some primal instinct "to communicate a sense of place, some sense of *here* in relation to *there,*" but in the needs of the nascent state to take on form and organize its many interests; but the relationship between signified and signifier is ever precarious, and what meant one thing in the beginning can mean its opposite today, or nothing, or everything. People are at play in the field of map signs, and the latent power of the map is waiting to be unleashed.