Rethinking the Power of Maps

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Of course, each of the lots moved from one county to another will find itself embedded in a different territorial hierarchy; that is, their school districts, electoral districts, and so on, will have changed, just as the Preddys found themselves in a different zoning district when Raleigh reposted its border switching them into the city, a reposting the city carried out having recognized that the part of the county the Preddys lived shared a conceptual type with other thises inside the city, namely, similar demands for services. This reposting of lines is itself caught up in the hierarchical structure in which the counties are embedded: the new border will have to be approved not merely by the commissioners of Franklin and Wake but by the North Carolina General Assembly, for like Bailey’s ecoregions, successively smaller units of government are defined within larger units of government (to ensure a more perfect union, I mean, registration).49

It is this ceaseless circulation of meaning within the sign plane of the map that makes the map the potent instrument for management that it is. Its ability to present ontological propositions (such as the existence of counties, zoning districts, ecological domains) as locative ones (that are located here) gives the map an unrivaled ability to transform desires, guesses, suppositions—you name it—into facts, facts the map then composes into territories that it hierarchically layers to permit the transmission of authority along with all the rest of the combinatorial legerdemain this opens the door to.

But this constitutive, this, as it were, almost juridical function of the posting, is complemented by the often even more potent connotative power of the signs through the medium of which the postings themselves are realized, and it is to this signifying power of the map that I turn to now.
Spread out on the table is the North Carolina State Transportation Map and Guide to Points of Interest (Figure 3.1). It happens to be the 1978–1979 edition. Not for any reason: it just came to hand when casting about for an example. If you don't know this map, you can well enough imagine it, a sheet of paper—nearly 2 feet by 4 feet—capable of being folded into a handy pocket- or glove compartment-sized 4-by-7 inches. One side is taken up by a message of welcome from the governor, a motorist's prayer ("Our heavenly Father, we ask this day a particular blessing as we take the wheel of our car . . ."), a ferry schedule, and an inventory of "points of interest" illustrated with photos of, among other things, a scimitar horned oryx (resident in the state zoo), a Cherokee woman making beaded jewelry, a ski lift, and a sand dune (but no cities). On the other side North Carolina—hemmed in by margins of pale yellow South Carolina, Virginia, Georgia, and Tennessee, and washed by a pale blue Atlantic—appears as a meshwork on white of red, black, blue, green, and yellow lines, thickened at the intersections by roundels of black or blotches of pink. There is something about it of veins and arteries seen through translucent skin, and if you stare at it long enough, you can even convince yourself that blood is pulsing though them. Constellated about this image, in what Fels and I have called the perimap, are larger scale maps of the Blue Ridge Parkway and ten urban places, an index of cities and towns, a highly selective mileage chart, a few safety tips and . . . yes, a legend (Figure 3.2).^3

The Legends of the Map

It doesn't say it's a legend, but it is one all the same. What it says is: "North Carolina Official Highway Map 1978–1979." To the left is a sketch of the state flag aflutter; to the right a sketch of a cardinal (state bird) on a branch of flowering dogwood (state flower) above a honeybee arrested in midflight (state insect). Below these, four
FIGURE 3.1. North Carolina 2006 State Transportation Map. I'm showing you North Carolina's 2006 version of its highway map to demonstrate how little things have changed (the rest of the illustrations come from the original 1978–79 version). True, they have added an inset of the state's river basins; and they've left the state flag, tree, bird, and insect off the legend. And everything's been updated. But in the end . . . it's the same old map. (Source: North Carolina Department of Transportation)

headings in red—“Road Classifications,” “Map Symbols,” “Populations of Cities and Towns,” and “Mileages”—organize collections of marks and their verbal equivalents (thus, a red dot is followed by the words “Welcome Center”). I will return to these in a moment, but, for the sake of completeness, it should be noted that below these one finds graphic and verbal scales (in miles and kilometers), as well as the pendent sentence, “North Carolina's highway system is the Nation's largest State-maintained Network. Hard surfaced roads lead to virtually every scenic and vacation spot.”

Clearly this legend—to say nothing of the rest of the map—carries a heavy burden, one that reflects aggressively the uses to which this map was put. The plural is stressed because it's a fact less overlooked than ignored, denied, suppressed, for certainly the first and primary “user” in this case was the State of North Carolina—no surprise given the history of mapmaking—which used the map as a promotional device, as an advertisement more likely than many to be closely looked at, even carefully preserved (because of its other uses); and so on given away at Welcome Centers just inside the state's borders, at Visitor Centers elsewhere, from booths at the State Fair, and in response to requests from potential tourists, immigrants, and industrial location specialists. This is all perfectly obvious in the “Guide to Points of Interest” and the selection of photographs that decorate it (unless that's backwards, and the “Guide” is first of all a way of justifying the photographs, like text in a National Geographic), but it's no less evident in the legend itself.

Nor is it just a matter of the inescapable presence of the state flag, flower, bird, and insect—though here they are in children's encyclopedia colors—but primarily of what else the mapmakers have chosen for the legend and the ways they have chosen to organize it, for more than one principle of order operates under even seem-
ingly straightforward subheadings such as "Populations of Cities and Towns." It's conventional to pretend, as Arthur Robinson does, that "legends or keys are naturally indispensable to most maps, since they provide the explanations of the various symbols used," but that this is largely untrue hardly needs belaboring. Never the case historically, even today legends are more often dispensed with than not, and they never provide explanations of more than a fraction of the "symbols" found on the maps to which they refer. The fact that legends accompany neither topographic survey sheets (and the fact that the separately available one is incomplete) nor the plates of most atlases makes this perfectly plain. That legends do exist for these maps, someplace in the book, or by special order, only serves to underscore through their entirely separate, off-somewhere-else character exactly how dispensable they are.

Nor is this dispensability due to the "self-explanatory" character of the map symbols, for though Robinson might insist that "no symbol that is not self-explanatory should be used on a map unless it is explained in a legend," the fact is that NO symbol explains itself, stands up and says, "Hi, I'm a lock," or "We're marsh," anymore than the words of an essay bother to explain themselves to the reader. Most readers make it through most essays and maps because as they grew up into their common culture they learned the significance of most of the words and map symbols. Those they don't recognize they puzzle out through context, simply skip, or ask somebody to explain. A few texts come with glossaries, though like map legends these are rarely consulted and readily dispensed with. But this familiarity with signs on the part of the reader never becomes a property of the mark; even the most transparent sign is opaque to those unfamiliar with the code.

It is not, then, that maps don't need to be decoded; but that they are by and large encoded in signs as readily interpreted by most map readers as the simple prose into which the marks are translated on the legends themselves. For at best legends less "explain" the marks than "put them into words" so that should the words mean nothing the legend is rendered less helpful than the map image itself, where
at least the signs have a context and the chance to spread themselves a little (as anyone who has "read" a map in a foreign language can attest). One way to appreciate this while approaching an understanding of the role legends actually play is to take a look at those signs on maps that don't make it onto the legend, of, for instance, this North Carolina Official Highway Map. Concentrating for the moment on the map image of the state proper, ignoring, that is, the little maps of the state's larger cities, the inset of the Blue Ridge Parkway, the mileage chart (the instructions for which do happen to be pasted over the map image proper, though over South Carolina, just below Kershaw); the guide to other transportation information sources; the borders and rules; and the letters, numbers, and other marks that facilitate the operations of the index of cities and towns—though to pretend that any of this is half as self-explanatory as the signs of the map image is to miss how laboriously we have learned to interpret the architecture of this sign plane, how much we have come to take for granted—still, ignoring all this, and all the words, and somehow managing to overlook that logo of the North Carolina Department of Transportation floating on the Atlantic some 20 miles due east of Cape Fear, it is nevertheless the case that at least 18 signs deployed on the map image do not appear on the legend. That's half as many as do.

Why don't they? It's not, certainly, because they're self-explanatory. No matter how many readers are convinced that blue naturally and unambiguously asserts the presence of water, or that little pictograms of lighthouses and mountains explain themselves, signs are not signs for, dissolve into marks for, those who don't know the code. Look at these: where, in the eyes and eyebrows of Mt. Sterling, can anyone see the mountain (Figure 3.3); or in the pair of upended nail pullers the lighthouse at Cape Fear (Figure 3.4)? Nor is there anything more "self-evident" about the use of blue for water. Not only historically has water been rendered in red, black, white, brown, pink, and green, but it disperses in other colors on the obverse of this very map: in silver and white on the "cover" photo of Atlantic surf; in tawny pewter in the photograph of fishing boats at anchor; in warm silver-gray in a shot of the moonlit ocean off Wrightsville Beach; and in yellow-green in the photograph of the stream below Looking Glass Falls. Only in the falls, where it indicates shadow, is there blue in any of these waters. This lack of any sort of "necessary" or "natural" coupling between blue and water proves fortuitous, for the color used to represent water on the map image does double-duty as background for the sheet as a whole, and surely we were never intended to read the circumjacent margin for a circumfluent ocean.

![Image](image_url)

**FIGURE 3.3.** The eyes and eyebrows of Mt. Sterling. Note the wear along the fold. The map has been folded and unfolded many times. *(Source: North Carolina Department of Transportation)*
There's no way around it: each of these signs is a perfectly conventional way of saying what is said ("lighthouse," "mountain," "water"), which is why the map seems so transparent, so easy to read. But were the function of the legend to explain such conventions (or at least translate them into words), then these too would belong on it, as surely as those that are there.

And if these belong there so does the yellow tint used for "other states," the white used for "North Carolina," the thick continuous green-with-dashed-red line that asserts "National Park" and the thick continuous yellow-with-long-short-dashed-black line that stutters "county" (so long as the border isn't along or over water). These all may be equally conventional, but they are less vernacular than the blue for water and so are more likely to be misconstrued, especially on a map on which a long-short-short-dashed-black line mutters "state," a continuous blue line murmurs "coast" or "bank," a fine dashed-red line coughs at "military reservation," a slightly thicker dashed-red line says "Indian reservation," and a still thicker one proclaims "Appalachian Trail." A fine dashed line in black whispers "national wildlife refuge." A continuous line in red hints, in degrees, at the graticule.

Yet whereas all these uncommon signs are absent, on the legend we find interpretative distinctions made among the shapes and colors of the road signs of the interstate, federal, and state highway systems. Does the person really exist for whom the graticule is self-evident and yet the highway signs obscure? I doubt it, though I don't doubt that there are many immured in the subtleties of the highway signage system for whom the graticule and its associated cabalism of degrees and minutes constitutes a very deep mystery. What becomes gradually clear is that if the purpose of the legend ever were "explanation," everything is backwards: the things least likely to be most widely known are the very things about which the legend is reticent, whereas with respect to precisely those aspects with which both natives and travelers are most sure to be familiar the legend is positively garrulous.

Garrulous, but not necessarily . . . informative: the signs under the category "Road Classifications" comprise less a system than a yard sale of marks, many of which remain, despite their inclusion on the legend, "unexplained." What is one to make, for instance, of the three marks given for "Hard Surface Road"? Are we to distinguish among solid red, solid black, and cased, dashed blue? Or are these just
three arbitrary ways of designating the same reality? Suggestions of system inevitably evaporate under the heat of attention: about the time you’ve concluded that red is the color of federal highways, you run down U.S. 74b in black; and by the time you’ve decided that unnumbered state roads are in cased, dashed blue, you realize you don’t have the foggiest idea what these are. There are another three equally vague signs for highways under construction, and another two for multilane highways. There would seem to be an interest in portraying access (controlled or not), jurisdiction (federal, state, county), condition (constructed, under construction), composition (hard surface, gravel, dirt), and carrying capacity (multilane or not) but not enough interest to force anybody to confront the graphic complexity implied by a five-dimensional code. Nor is this mess limited to the “Road Classifications” portion of the legend. Of the seven signs under “Populations of Cities and Towns” only four relate to population, and these do so without consistency. The state capital, county seats, and “24-Hour Hospital Emergency Service” have individual designations confusingly related to the signs of population. Thus, the sign for “State Capital” is circular, like the signs for towns with less than 10,000 people; but the “County Seat” sign is a kind of lozenge shape. The sign for “Emergency Service” is a bright blue asterisk.

I can imagine your lips moving as you read this. They’re saying, “What a poor excuse for a map! My 5-year-old could do better.” But that’s not true. Even graduate design students collapse when confronted with a task of this complexity. The design problems alone test them (to say nothing of the map problems), but the political realities wipe them out, especially the (surely anticipated) demands of interagency collaboration (for whereas one side of our map was handled by the Department of Transportation, the other was produced by the Department of Commerce); but also the rigors of pleasing state senators and representatives, and the imperatives of manifesting those minuscule but vital tokens of partisanship that distinguish the map of a Republican administration from that of the Democrats. Nor is it such a poor excuse for a map. It’s a fair example of the genre. It’s indistinguishable, for instance, from the Michigan Great Lake State Official Transportation Map for 1974, which makes up for the omission of the state insect by illustrating, inter alia, the state gem (greenstone), state fish (trout), and state stone (petoskey); it’s a lot less weird than the Texas—1976 Official Highway Travel Map, which in an attempt at shaded relief manages only to look ... badly, and; and it’s almost impossible to tell from the (bizarrely enough undated) Official Vermont Road Map & Guide to Vermont Attractions of 2008. Nor are any of the North Carolina state transportation maps produced in the years since much of an improvement in this regard, though they may be in others. All the maps of the genre, and most other genres as well, are characterized by legends (like this map’s) that in a more or less muddled fashion put into words map signs that are so customary as to be widely understood without the words, while leaving the map images themselves littered with conventions it taxes professional mapmakers to put into English.

**But Then Maps Are Myths**

Invariably, the knee-jerk reaction is either to pooh-pooh the examples as bad (as in, “Those are just bad maps!”) no matter how many times multiplied, or to call for
a revolution in the design of their legends ("Rethinking Legends for State Highway Maps: Visual Perception Considerations"). Both responses completely miss the point. There is nothing wrong with the design of these legends: they are supposed to be the way they are. This will be difficult for many to accept, but once it is understood that the role of the legend is less to elucidate the “meaning” of this or that posting than to function as a sign in its own right, this conclusion is even more difficult to evade. Just as the bright blue asterisk signifies “24-Hour Hospital Emergency Service,” so the legend as a whole is a signifier. As such, the legend refers not to the map (or at least not directly to the map), but back, through a judicious selection of map elements, to that to which the map image itself refers... to the state. It is North Carolina that is signified in the legend, not the things posted, though it is the selection of conceptual types and their disposition within the legend box that encourages the transformation of the legend into a sign. It is a sign only a mapmaker could fail to understand. Others receive in a glance, naively or otherwise, this sign of North Carolina's subtly mingled... automotive sophistication, urbanity, and leisure opportunity. Apprehended this way, the legend makes sense. The headings in red—heretofore so bizarre—appear now as headlines to a jingoist text. Under the fluttering flag appear the words "Road Classifications." Plural. North Carolina's road system is so rich one classification can't handle it. And across the legend, under the bucolic branch cum bird (read "rural," read "traditional values") and the bee if you can see it (read "hard working," read "no unions"). The words, "Populations of Cities and Towns." Cities and towns and birds and bees. It's almost too much, though as it says on the 1986-1987 edition of this map, "North Carolina has it all."15

It certainly has a lot of whatever it is. Look at those road signs! Their proliferation can no longer be seen as a manifestation of graphic and taxonomic chaos, though, but as a sign insisting that roads really are what North Carolina's all about. The sign's abundant density supports the presumption of the headline and justifies the proximity of the flag. That there are more signifiers than signifieds is no longer a mystery to be explained, but part of the answer to the question, "Does North Carolina really have a lot of roads?" It's the graphic analogue to the assertion in black at the bottom of the legend box that reads: "North Carolina's highway system is the Nation's largest State-maintained Network."16 What the roads connect, of course, are all those cities. It's wonderful the way it takes seven signs and four lines to unfold the complexities of what one can't help observing is but a four-tier urban hierarchy. Again, it's the graphic equivalent of a remark from the governor's letter on the other side of the map about "booming" cities. Hey; this is a hip state (though bucolic), urban, urbane, sophisticated (but built on traditional values). The whiff of sophistication is heightened by the kilometer scale, so European, almost risqué (though it's carefully isolated in the lower right-hand corner of the legend under the heading "Mileages"). Roads and cities: roads to and from cities, that is, exactly the desideratum for someone looking to locate, say, a plant somewhere in the South. Modern, in other words, up-to-date. But as the bird and branch and honeybee remind us... not off the wall.

And yet it's not all work either. In between, in between moments, in between the roads and the cities and towns, in between the signs for the roads and the cities and towns, under the innocuous heading "Map Symbols" (which from its central position also casts its net over all the map signs on the legend), may be found the signs for fun, clean fun, good clean fun, but still fun: "Park Campsites," "State and
National Forest,” “Welcome Center,” “Rest Area” and “Points of Interest,” to say nothing of the signs for still other ways of getting around, ferries, railroads, and three kinds of airports. Led by that bright green forest sign that visually lies at the center of the legend (read “parks”), this heterogeneity speaks of caring for people (“Welcome Center,” “Rest Area”) and is the graphic equivalent of the remainder of that black sentence that sums up the legend (and is counterpoised at the bottom against “North Carolina” at the top): “Hard surfaced roads [for which there are three signs] lead to virtually every scenic and vacation spot.”

Wow! It’s almost overdone. Had it been done up slick by some heavy-duty design firm, it would have been overdone. But here, it’s just hokey enough to seem sincere. It is sincere. We don’t believe for a minute anyone sat down and cynically worked this out, carefully offsetting the presumptuousness of the overheated highway symbolism with the self-effacing quality of the children’s encyclopedia colors. But this is not to say that with this legend we are not in the presence of what Roland Barthes has called “myth.”

Myth for Barthes is a kind of “speech” better defined by its intention than its literal sense. Barthean myth is invariably constructed out of signs, like ours for the church in Clintonville, like the legend here, signs already compounded out of signifieds and signifiers. An example from a wholly different domain, an especially innocuous one, is given in Barthes’s reading of a Latin sentence, “quia ego nominor leo,” in a Latin grammar:

There is something ambiguous about this statement: On the one hand, the words in it do have a simple meaning: because my name is lion. And on the other, the sentence is evidently there in order to signify something else to me. Inasmuch as it is addressed to me, a pupil in the second form, it tells me clearly: I am a grammatical example meant to illustrate the rule about the agreement of the predicate. I am even forced to realize that the sentence in no way signifies its meaning to me, that it tries very little to tell me something about the lion and what sort of name he has; its true and fundamental signification is to impose itself on me as the presence of a certain agreement of the predicate. I conclude that I am faced with a particular, greater, semiological system, since it is co-extensive with the language; there is, indeed, a signifier, but this signifier is itself formed by a sum of signs, it is in itself a first semiological system (my name is lion). Thereafter, the formal pattern is correctly unfolded: there is a signified (I am a grammatical example) and there is a global signification, which is none other than the correlation of the signifier and the signified; for neither the naming of the lion nor the grammatical example is given separately.

The parallels with our legend are pronounced. On the one hand, it too is loaded with simple meanings: where on the map you find a red square, on the ground you will find a point of interest. But as we have seen, the legend little commits itself to the unfurling of these meanings, even compared to the map image on which each is actually named, “Singletary Lake Group Camp” or “World Golf Hall of Fame.” The appearance of the red square on the legend thus adds nothing to our ability to understand the map. Instead it imposes itself on us as an assertion that North Carolina has points of interest; in fact, it speaks through the map about the state. Yet, as in Barthes’s example, this assertion about North Carolina is constructed out of, stacked on top of, the simpler significance of the red square on the legend, namely, to be identified with the words, “Points of Interest.”
We thus have a two-tiered semiological system in which the simpler is appropriated by the more complex. Barthes has represented this relationship diagrammatically (Figure 3.5).\textsuperscript{19} In our case, at the level of language we have as signifier the various marks that appear on the legend: the red square, the black-dashed line, the bright blue asterisk. As signified we have the respective phrases: "Points of Interest," "Ferry," and "24-Hour Hospital Emergency Service." Taken together, the marks and phrases are signs, things that in their sign function are no longer usefully taken for themselves (there is no red square 350 yards on a side at Singletary Lake), but as indicative of or as pointing toward something else (a point of interest called Singletary Lake Group Camp). Collectively, these signs comprise the legend, but this in turn is a signifier in another semiological system cantilevered out from the first. At this level of myth we have as signified some version of what it might mean to be in North Carolina, some idea of its attractiveness (at least to a specifiable consumer), a concept signed also in the photos decorating the other side of the map, in the governor's message, in the "Motorist's Prayer," a concept we could call... North Carolininity. The signifier is of course the legend appropriated from the level of language by this myth to be its sign. Insidiously, this myth is not required to declare itself in language. This is its power. At the moment of reception, it evaporates. The legend is after all only a legend. One sees only its neutrality, its innocence. What else could it be? It is after all a highway map!

Indeed. And so it is. It is precisely this ambiguity that enables myth to work without being seen, that enables maps of nations, election returns, and this highway map to mask the interests that brought them into being. Perched on top of a primary semiological system, myth resists transformation into symbols, which makes it hard to put into words, hence... hard to talk about. As a legend or a map or a photograph, it retains always the fullness, the presence, of the primary semiological system to which it is endlessly capable of retreating. What viewed obliquely appears as an advertising slogan, confronted directly is the blandest of legends, so that the slogan, still ringing in one's ears, is apprehended as no more than the natural echo of the facts of the map.

It is in this way that North Carolininity comes to be accepted as an attribute of the

\begin{figure}[h]
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\caption{Barthean tier. Signified and signifier are conjoined in the sign, the whole of which is seized by myth to be the signifier in its second-order semiological system. Barthes cautions that the spatialization of the pattern of myth here is only a metaphor.}
\end{figure}
terrain instead of being seen as the promotional posture of state government it actually is. This constitutes, in Barthes’s phrase, “the naturalization of the cultural”:

This is why myth is experienced as innocent speech: not because its intentions are hidden—if they were hidden they could not be efficacious—but because they are naturalized. In fact, what allows the reader to consume myth innocently is that he does not see it as a semiological system but as an inductive one. Where there is only an equivalence, he sees a kind of causal process: the signifier and the signified have, in his eyes, a natural relationship. This confusion can be expressed otherwise: any semiological system is a system of values; now the myth consumer takes the signification for a system of facts: myth is read as a factual system, whereas it is but a semiological system.20

Not seen as a semiological system: this is the heart of the matter. Of all the systems so not seen, is there one more invisible than the map? As we have seen, the most fundamental claim of the map is to be a system of facts, and the history of maps has most often been written as the story of their ability to present those facts with ever increasing accuracy. That this system can be corrupted everyone acknowledges: none are more vehement in their exposure of the “propaganda map” than mapmakers who, having denounced the usage, feel but the freer in passing off their own products as anything other than the semiological systems they have no choice but to be.21 It may no longer appear that an official state highway map is quite such a system of facts as it might have seemed; but this is essentially a consequence of my analysis. Outside of this context, a highway map is accepted as inevitable, as about as natural a thing as can be imagined. Its presence in glove compartments, gas station racks (even if today they must be paid for), and the backs of kitchen drawers is . . . taken for granted. Yet as we have shown, even so innocent a part of the map... as the legend... carries an exhausting burden of myth, to say nothing of the prayer, the governor’s message, the photographs, and the rest of the perimap.

Nor does the map image proper escape the grasp of myth. On the contrary, it’s the more mythic precisely to the degree that it succeeds in persuading us that it’s a natural consequence of perceiving the world. A state highway map, for instance, is unavoidably... a map of the state, that is, an instrument of state polity, an assertion of sovereignty. There was, for example, no need from the perspective of a driver to have colored yellow the states contiguous to North Carolina. There was no need to have shown the borders. It’s not, after all, as though the laws regulating traffic changed much at the borders, though to the extent that they do, the map is silent.22 At the level of language the map, like the legend, seems to proffer vital information; but it’s an impression hard to sustain—there is too little information to make what’s provided useful. Like the legend, the map in this regard makes no sense. From the perspective of myth, however, this delineation of the state’s borders is of the essence. Though many will see in this only the most dispassionate neutrality (what could be more natural than the inclusion of the state’s borders on its highway map?), there is nothing innocent about the map’s affirmation of North Carolina’s dominion over the land in white, for as we know, it is among other things the repetitive impact of the state’s geo-body that lends credence to the claims of control—even 230-plus years after its establishment—which explains the extensive logogrammatic application of the state’s outline to seals, badges, emblems, and maps. The 1.75 million copies of the 2007 edition constituted 1.75 million assertions of the state’s sovereignty; assertions that at the moment of being noticed had the ability to fade back into the
map where their appearance was taken entirely for granted, overlooked because expected... naturally... part of the surface.

Which is myth's way: the map is always there to deny that the significations piled on top of it are there at all. I mean, it's only a map, and the pretense is that it's innocent, a servant of that eye that sees things as they really are. But as we have seen, outside of the world of maps states carry on a precarious existence. Little of nature, states are much of maps, and only when it is acknowledged how fragile is the existence of an unmapped state, is it possible to comprehend the importance of this repetition of North Carolina's geo-body, or to appreciate—for example—the anger of Tibetans when, as in the National Geographic that arrived as I was writing this, their nation is mapped as no more than a part of China. 23 It's not that the map's right or wrong (it's not a question of accuracy), but that the map takes a stand while pretending to be neutral on an issue over which people are divided. 24 Nor is it that those angered have confused the map with the terrain, but that they recognize what mapmakers are at such pains to deny, that, like it or not, willingly or unwillingly, because au fond maps constitute a semiological system (that is, a system of values), they are ever vulnerable to seizure or invasion by myth. They are consequently in all ways less like the windows through which we view the world and more like those windows of appearance from which pontiffs and other potentates demonstrate their suzerainty, not because mapmakers particularly want it this way but because given the nature of signs, they have no choice.

Paradoxically, this is an absence of choice founded in choice alone, for a map is a consequence of choices among choices, and as we know to choose is to reveal a value. That the choice to map Tibet as Chinese reveals a political attitude is something many will readily concede, 25 but all choices are political and it is no less revealing to choose to map highways, for this too is a value. That it would be difficult to produce a state highway map without highways I admit, but there is no injunction on the state to map its roads anymore than there is for it to map the locations of deaths attributable to motor vehicles, or the density of cancer-linked emissions from internal combustion engines, or the extent of noise pollution associated with automotive traffic. 26 It would be gratifying to live in a state that produced 1.75 million copies of such maps and distributed them free of cost to travelers, tourists, immigrants, and industrial location specialists, but states find it more expedient to publish maps of highways.

In 1988 North Carolina did publish the North Carolina Public Transportation Guide—a highway map-like document posting intercity bus, train, and ferry routes—but it printed only 15,000 copies, less than a hundredth as many as it printed of its highways. 27 Not an advertisement, the public transportation map was produced without the assistance of the Department of Commerce. Could this be why, unlike the highway map, among whose blond hikers, swimmers, golfers, and white-water enthusiasts no blacks appeared, blacks figured so prominently on the public transportation map? Here blacks buy intercity bus tickets, get on city buses, and in wheelchairs get assisted into specially equipped vans. 28 The reek of special assistance is like sweat: "Many of you have requested information on how to make your trip without using a private automobile. Because of these requests..." and so on. But there is nothing of this tone on the highway map. There was never any need to have requested a highway map: it, after all, is... a natural function of the state. Everything conspires to this end of naturalizing the highway map (even the map of public
Everything's in Code

It is, of course, an illusion: there is nothing natural about a map. It's a cultural artifact, an accumulation of choices made among choices every one of which reveals a value: not the world, but a slice of a piece of the world; not nature but a slant on it; not innocent, but loaded with intentions and purposes; not directly, but through a glass; not straight, but mediated by words and other signs; not, in a word, as it is, but . . . in code. And of course it's in code: all meaning, all significance derives from codes, all intelligibility depends on them. For those who first encountered their codes in the breakfast cereal box—little cardboard wheels arbitrarily linking letters and numbers—this generalization of the idea may occasion some disquiet. It shouldn't. When you wear a tie to work, you're dressing in code. When you frown, you're expressing in code. When you type or scribble, you're writing in code. Human languages are probably the most elaborate and complex codes we're familiar with—and the dictionary just a big clumsy breakfast cereal toy—but there are sublinguistic codes of incredible sophistication (those danced by Ginger Rogers and Fred Astaire) and supralinguistic codes of deep subtlety (such as the conventions underwriting the structure of James Joyce's Ulysses). Usually a number of different codes are used simultaneously (this is a text). Fred and Ginger were placed in settings, dressed, wore their hair a certain way, gestured, spoke and sang as well as danced, and all this was coded. There is even a code of codes: mime, for example, is forbidden the code of words, and in general the arts are distinguished by a code whose elements are other codes.

More technically, a code can be said to be the assignment scheme (or rule) that couples items or elements from a conveyed system (the signified) to a conveying system (the signifier). We already know how this works, but the highway code is paradigmatic (Figure 3.6). On the one side are intentions (she intends to turn), promises (Holly Springs will be encountered 3 miles down this road) and commands (not to pass, to stop, to go). On the other side are gestures (a hand stuck straight out the driver's window), words and numbers ("Holly Springs/3 miles"), and lights and lines (a red traffic light, a solid yellow line down the middle of the road). The intentions, promises, and commands are elements of the system conveyed: signifieds (content). The gestures, words, numbers, lines, and lights are elements of the system conveying: signifiers (expression). The code (the rule, in this case, traffic law) assigns the latter to the former, couples them and in so doing, creates . . . a sign.

I know I just said this in the last chapter, but it bears repeating: the sign is not in the gestures or the lights, the words or the numbers; it is not the signifier. Nor is the sign in the intentions, promises, or commands: it is not the signified. The sign exists solely, utterly, and exclusively in its correlation (established by the code, the rule, by custom, by the law). There is nothing, for instance, inevitable (necessary) in the relationship between a driver sticking his arm straight out the left window and his intention to turn left (and in fact it has been largely supplanted by the flashing of transportation), of making the decision to produce such a map seem less a decision and more a gesture of instinct, of making the map's cultural, its historical, its political imperatives transparent: you see through them, and there is only the map, innocent, of nature, of the world as she really is.
FIGURE 3.6. Part of the highway code. In 1930 the North Carolina state highway map began showing motorists the proper use of hand signals for left turns, right turns, and stopping, encoding a piece of the paradigmatic highway code onto the map itself. (Source: North Carolina Department of Transportation)

lights on the left side of the car), any more than there is between a driver pointing to heaven and his intention to turn right (though doubtless there was some historical contingency that helped make it customary).

Signs, in other words, are the creatures of codes with the loss of which they are rendered—like fat—into their constituent components, disembodied signifieds separated from insignificant signifiers. It is the codification in which the sign adheres, nothing else. Or, as Umberto Eco puts it:

A sign is always an element of an expression plane conventionally correlated to one (or several) elements of a content plane. Every time there is a correlation of this kind, recognized by a human society, there is a sign. Only in this sense is it possible to accept Saussure's definition according to which a sign is the correspondence between a signifier and a signified. This assumption entails some consequences: a a sign is not a physical entity, the physical entity being at most the concrete occurrence of the expressive pertinent element; b a sign is not a fixed semiotic entity but rather the meeting ground for independent elements (coming from two different systems of two different planes and meeting on the basis of a coding correlation).

Because signs have neither physical existence (unlike the signifier) nor permanence, they are frequently referred to as sign-functions, or in Eco's words:

Properly speaking there are not signs, but only sign-functions . . . A sign function is realized when two functives (expression and content) enter into a mutual correlation; the same functive can also enter into another correlation, thus becoming a different functive and therefore giving rise to a new sign-function. Thus signs are the provisional result of coding rules which establish transitory correlations of elements, each of these elements being entitled to enter—under given coded circumstances—into another correlation and thus form a new sign.

This is not a game of words. Nor is the vocabulary important. What is important is the notion that signs, or sign-functions, or symbols—what they are called does not matter—are realized only when coding rules bring into correlation two elements or items (or functives) from two domains or systems (the one signifying, of expression;
the other signified, of content) and that whenever there is such a correlation, there is a sign. You may call this resulting sign an icon. You may call it a pictogram. You may call it a word. You may call it an index. You may call it a symbol. You may call it a piece of sculpture. You may call it a sentence. You may call it a map. You may call it New York City. In every case, whatever else it is, it is, in its sign function, also a sign, that is, a creature of a code: no signs without codes. This must be insisted upon: that is, there are no self-explanatory signs; no signs that so resemble their referents as to self-evidently refer to them. They are inevitably arbitrary, inevitably reveal... a value.

Once the superordinate role of the code (the rule, the convention) is accepted, it becomes easy to explain how what "self-evidently" resembles a river on a map equally "self-evidently" resembles veins on a diagram of the circulatory system, without invoking complicated principles of metaphor (not that these might not have been operant in the genesis of the sign). It is not that the reader thinks, "Oh, yes, the deoxygenated blood is relatively bluer than in the arteries, and under a clear blue sky the surface of rivers often seems blue; and both veins and arteries carry (whatever "carry" means) liquids in a branching (see "tree") network (see "net," see "weaving"), sooo, let's see, that means..." This is not how it happens at all. What happens is that the reader finds himself or herself in an entirely distinct coded circumstance all at once. At the level of language, the diagram of the circulatory system is decoded without reference to the codes of the map, and vice versa.

There is certainly no question of resemblance with respect to which Barthes notes that it would be in any case a resemblance to an identity (the identity of the river, the identity of the vein), an identity "imprecise, even imaginary, to the point where I can continue to speak of 'likeness' without ever having seen the model," as those do who justify this sign for veins because "they look like veins" without ever having seen a vein, without having seen a hepatic vein, without having seen an inferior vena cava; or the sign for a river, the Colorado, because "it looks like a river" (the Thames? the Cuyahoga?) without having seen it, without having seen where the Colorado trickles all but dry into the Gulf of California. It is not a matter of resemblance: the blue line is a blue line. It is the code that does the work, not the signifier. If there is involved an iconicism, it is always at the level of the structure of the system (it is analogic, not metaphoric). It is less the blueness of deoxygenation that says "veins" than the simultaneous redness of the arteries, their characteristic jointure at the extremities, and their perfect parallelism; it is less the blue-between-black lines that says "river" than its characteristic form, its characteristic relationship to other forms (other rivers, mountains, roads, towns, oceans); so that "veins" can as easily be read in black or gray, and "rivers" in diagrams of drainage basins and flood insurance maps. To say that it is the code that does the work, not the signifier, is just another way of saying that it is the code that makes the sign, not the mark.

At Least 10 Cartographic Codes

So it is the codes on which one must fasten if the map is to be decoded (or if a map is to be encoded). It's possible to distinguish at least 10 of these codes (doubtless there are others), which the map either exploits, or by virtue of which the map is exploited. Neither class is independent of the other, and no map fails to be inscribed
in (at least) these 10 codes. Those that the map exploits are termed codes of intrasignification. They operate, so to speak, within the map: at the level of language (they are caught up in the circulation of meaning among the postings). Those by virtue of which the map is exploited we term codes of extrasignification. These operate, so to speak, outside the map... at the level of myth (they are involved in supporting the map's authoritative ness).

Among the codes of intrasignification five at least are inescapable: the iconic, the linguistic, the tectonic, the temporal, and the presentational. Under the heading iconic is subsumed the code of "things" with whose relative location the map is enraped: Ocotea skutchii, the streets of Genoa, rates of death by cancer, the losses suffered in Napoleon's Russian campaign, airways, subways, the buildings of Manhattan, the Attendance Area for Wiley Elementary, the rivers, roads, counties, airports, cities, and towns of North Carolina. The iconic is the code of the inventory, of the world's fragmentation: into urban hierarchies, into hypsometric layers, into wet and dry. The linguistic is the code of the names: Barro Colorado Island, the Via Corsica, the Corso Aurelio Saffi; trachea, bronchus and lung cancer, white males, age-adjusted rate by county, 1950–1969; France, Amérique du Nord; Moscow, Plootzk; LEE 4 AZI 1989; the Graybar Building, the Seagram, Cape Fear River, U.S. 421. The linguistic is the code of classification, of ownership: identifying, naming, assigning. The relationship of things in space is given in the tectonic codes: in the scalar—in the number of miles (or feet) encoded in every inch—and in the topological—in the planimetry of cities, the stereometry of mountain ranges, the projective geometry of continents, the topographometry of the field traverse, the simple topology of the sketch map giving directions to the party. The tectonic is the code of finding, it is the code of getting there: it is the code of getting. Because there is no connection, no communication, except in time, the codes of filiation are temporal, codes of duration, codes of tense. The durative establishes the scale, the map's durée, its "thickness": as the map of rates of death from cancer, 1950–1969, is "thicker" than the 1978–1979 North Carolina highway map, which is "thicker" than the "The vote Tuesday, county by county." The durative reveals (or hides or is mute about) lapses in synchronicity. The tense says... when: some maps are in the past tense ("The World of Alexander the Great"), others in the future tense ("Tomorrow's Highways"), but most maps exist in the present ("State of the World Today"), or, if they can possibly get away with it, the aorist: no duration at all (no thickness), out of chronology (not lost—just out of it), free of time (such maps attain to myth at the very level of language).

Each of these codes—iconic, linguistic, tectonic, and temporal—is embodied in signs with all the physicality of the concrete instantiation of the expressive pertinent element. On the page, on the sheet of paper, on the illuminated display with its flashing lights, these concrete instantiations are ordered, arranged, organized by the presentational code: they are... presented. Title, legend box, map image, text, illustrations, inset map images, scale, instructions, charts, apologies, diagrams, photos, explanations, arrows, decorations, color scheme, type faces are all chosen, layered, structured to achieve speech: coherent, articulate discourse. It is a question of the architecture of the picture plane, the perimap: what's in the center and what's at the edge, what's in fluorescent pink and what's in the blue of Williamsburg, whether the paper crackles with (apparent) age or sluffs off repeated foldings like a rubber sheet, whether the map image predominates or the text takes over. It is never, even at the lowest level, a question merely of escaping the stigmas of para-
nomia and aphasia, dysphemia and idiolalia, dyslogia and cacology. At the very bottom it’s a question of fluency and eloquence, and soon enough of vigor and force of expression, ultimately of polemic, for wherever it may begin the code of presentation soon enough carries the map out of the domain of intrasignification into that of extrasignification, into that of the society that nurtures it, that consumes it... that brings it into being.

Among the codes of extrasignification five again are inescapable, the thematic, the topic, the historical, the rhetorical, and the utilitarian (Figure 3.7). All operate at the level of myth, all make off with the map for their own purposes (as they made the map), all distort its meaning (its meaning at the level of language) and subvert it to their own. If the presentional code permits the map to achieve a level of discourse, the thematic code establishes its domain. On what shall the map discourse? What shall it argue? Though it is precisely the thematic code that has dictated their appearance on the map, from the perspective of the reader, the theme is experienced as a latency inherent in the “things” iconically encoded in the map: roads, for instance, it is a map of roads and highways; it asserts the significance of roads and highways (if only by picturing them, if only by foregrounding them); its theme is Automobility (the legitimacy of Automobility). Or it is a general reference map, a map of hydrography and relief carved into political units and plastered with railroads and towns, that is, a map of a landscape smothered by humanity, tamed, subdued (the red railroads—sometimes black—inherently reminiscent of the bonds by means of which the Lilliputians restrained Gulliver), its theme is: Nature Subdued. And precisely as the thematic code runs off with the icons, so the topic code (with a long o from topos, place, as in topography) runs off with the space established by the tectonic code, turns it from space to place, gives the map its subject, bounds it (binds it), names it (via the linguistic code), sets it off from other space, asserts its existence: this place is: Attendance Area for Wiley Elementary, Leaf Collection Area (Figure 3.7). Just so the historical code. Only it works on the time established in the map by the temporal code. Are there bounding dates to the map’s durée? Then the historical code appropriates them to an era, assigns it a name, incorporates it in a vision of history (it establishes the map’s subject... in time). So an archaeological map of Central America acquires the title, “Before 1500/Pre-Columbian Glory,” one of 19th-century plantation crops, political units, selected urban places, cart roads, railroads, and battles the title, “1821–1900/Time of Independence”; yet another of similar subjects (though with the addition of a sign for refugee centers) the caption “1945–Present/Upheaval and Uncertainty.”

There is no time that cannot be reduced to these sequacious causal schemata, absorbed into these... platitudes, made comfortable and safe because grasped, understood.

If the thematic code sets the subject for the discourse, if the topic and historical codes secure the place and time, it is the rhetorical code that sets the tone, that having consumed the presentional code most completely orients the map in its culture (in its set of values), pointing in the very act of pointing somewhere else (to the globe) to itself, to its... author, to the society that produced it, to the place and time and omphalos of that society, the more dramatically as the aspect of the globe toward which it points is alien, is exotic, that is, can have its title set in a typeface that mimics... bamboo. It is a code of jingoisms, a code that beats its chest like Tarzan, a code of the sort of subtle chauvinisms that encourages the National Geographic to call it a “road” on its map of the Central Plains, 1803–1845, but to call it a “cart
ENCODING THE MAP

Temporal code controls duration (five days) and tense (present)

Historical code positions the tense and duration set by the temporal code in an era (the Present)

Utilitarian code uses the map as a newspaper advertisement, to justify city government to the taxpayers

Iconic code controls the things, here the streets

Tectonic code sets the scale and the planimetry of the space

Presentational code determines the style, the layout of both map image and legend

Thematic code determines the theme: "The City takes care of business," here leaf collection

Linguistic code names the streets, the city, controls the text

Topic code transforms the space determined by the tectonic code into a place, here City of Raleigh

Rhetorical code limits the action of the presentational code to choices reinforcing the map's no-nonsense, "The City takes care of business" theme, here, for example, to no nonsense fonts.

Every code is involved in every choice

FIGURE 3.7. The 10 map codes at work. It is easy to point to actions of the five intrasignificant codes; but because they determine the range of action of the intrasignificant codes, the action of the extrasignificant codes is felt dispersed throughout the plane of the map. The iconic code may determine the signs of the map's things, but it does so only "in consultation" with the thematic, rhetorical, utilitarian, and other extrasignificant codes.

road" on its map of Central America, 1821–1900.5 Yet even then it is an "American" map, that is, a map that reflects the genius of the North Americans, or at least those north of the Rio Grande (for according to the National Geographic the ancient Maya had but "trade routes" and even the Camino Real was just a "trail"); and, if only because it is the mapping society, the mapping society stands at stage center, with all the others in the wings (Figure 3.8). For the rhetorical code, the mere existence of the map is a sign of its higher culture, its sophistication: the map is rhetorical au fond, and for this reason no map can eschew it. It is like clothing: even not to wear it is to be caught in the net of meanings woven by the code of fashion. To attempt to shed the rhetorical code is but to shout the more stridently through it: it is its very disregard for the subtler aspects of the code of presentation that so completely characterized the publisher of The Nuclear War Atlas as "socially conscious",56 it is nothing other than their violations of "good taste" that allows us to read the editors of The State of the World Atlas as angry.57 Their subversion of the power of the
rhetorical code amounts to a bold proclamation of their rhetorical stance (sk8er maps, map nudism, punk maps), the very opposite of the position occupied by the United States Geological Survey, which obscures its stance beneath a rhetorically orchestrated denial of rhetoric (dressing itself in the style of science). Elsewhere the map will dress in the style of Art. Or in the style of the Advertisement. Or in the Vernacular (place mat maps, the North Carolina Highway map). The rhetorical code appropriates to its map the style most advantageous to the myth it intends to propagate. None is untouchable. All have been exploited.

As the map itself is finally exploited, picked up bodily by the utilitarian code to be carted off for any purpose myth might serve. A professor of curriculum and instruction, commenting on the availability of state highway maps for secondary classroom use, remarks, "It has the governor's picture on it. You can get as many as you want." It is here that the academic model of the map with its scanning eyes and graduated circle-comparing minds breaks down most completely. It has no room for the real uses of most maps which, exploiting both the "juridical" function of the posting and the "connotative" power of the sign are—manifestly—to possess and to claim, to legitimize and to name. What nation-state has failed to signal its birth by the mapping of its domains? Whatever the pragmatic considerations (these are, after all, maps that speak also at the level of language), it has inevitably also been an act of conspicuous consumption, a sign of contemporaneity as well as wealth and power, a symbolic manifestation of the rights of possession (the Xangsi emperor sending his atlas to the Tsar of the Russians). These are the uses of maps as certainly as it is the most important function of maps in geographic journals to certify the geographic legitimacy of the articles they decorate. USGS quadrangles, dressed in
their button-down white shirts and suitable ties, these, in their metered regularity (so many sheets per unit area), their sensible no-nonsense layout, their methodical tiling, their obsessive coverage, ultimately know no code other than that of possession except that of exploitation. "To catalogue," Barthes noted, "is not merely to ascertain, as it appears at first glance, but also to appropriate." In the end, geologic survey sheets differ little enough from... maps of military targets.