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Seeing Like a State

How Certain Schemes to Improve the Human Condition Have Failed

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of vital and other statistics; to forestry and rational agriculture; to surveying and exact cartography; and to public hygiene and climatology."[104]

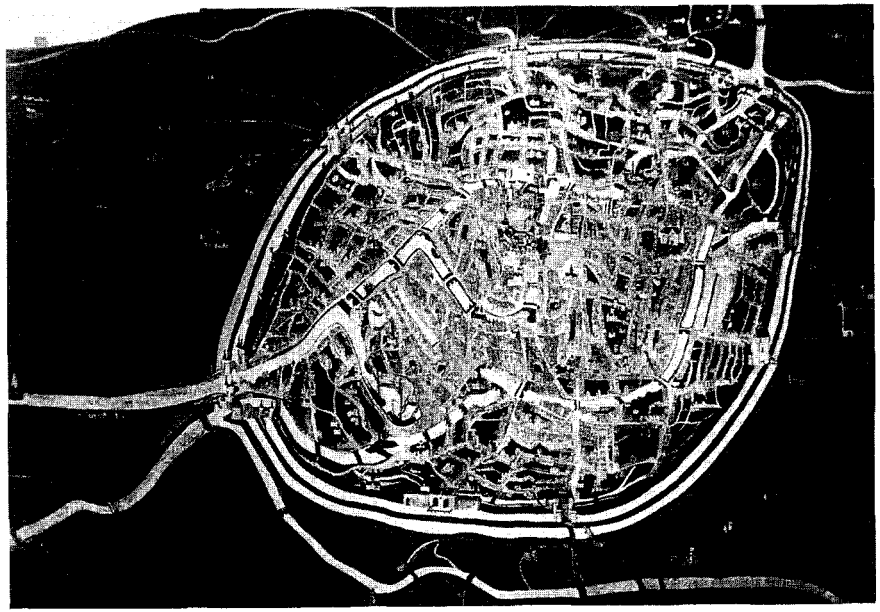
Although the purposes of the state were broadening, what the state wanted to know was still directly related to those purposes. The nineteenth-century Prussian state, for example, was very much interested in the ages and sexes of immigrants and emigrants but not in their religions or races; what mattered to the state was keeping track of possible draft dodgers and maintaining a supply of men of military age.[105] The state's increasing concern with productivity, health, sanitation, education, transportation, mineral resources, grain production, and investment was less an abandonment of the older objectives of statecraft than a broadening and deepening of what those objectives entailed in the modern world.

2 Cities, People, and Language

> And the Colleges of the Cartographers set up a Map of the Empire which had the size of the Empire itself and coincided with it point by point. . . . Succeeding generations understood that this Widespread Map was Useless, and not without Impiety they abandoned it to the Inclemencies of the Sun and the Winters.
> —Suarez Miranda, *Viajes de varones prudentes (1658)*

An aerial view of a town built during the Middle Ages or the oldest quarters (*medina*) of a Middle Eastern city that has not been greatly tampered with has a particular look. It is the look of disorder. Or, to put it more precisely, the town conforms to no overall abstract form. Streets, lanes, and passages intersect at varying angles with a density that resembles the intricate complexity of some organic processes. In the case of a medieval town, where defense needs required walls and perhaps moats, there may be traces of inner walls superseded by outer walls, much like the growth rings of a tree. A representation of Bruges in about 1500 illustrates the pattern (figure 8). What definition there is to the city is provided by the castle green, the marketplace, and the river and canals that were (until they silted up) the lifeblood of this textile-trading city.

The fact that the layout of the city, having developed without any overall design, lacks a consistent geometric logic does not mean that it was at all confusing to its inhabitants. One imagines that many of its cobbled streets were nothing more than surfaced footpaths traced by repeated use. For those who grew up in its various quarters, Bruges would have been perfectly familiar, perfectly legible. Its very alleys and lanes would have closely approximated the most common daily movements. For a stranger or trader arriving for the first time, however, the town was almost certainly confusing, simply because it lacked a repetitive, abstract logic that would allow a newcomer to orient herself. The cityscape of Bruges in 1500 could be said to privilege local knowledge over outside knowledge, including that of external political authori-



8. Bruges circa 1500, from a painting in the Town Hall, Bruges

ties.[1] It functioned spatially in much the same way a difficult or unintelligible dialect would function linguistically. As a semipermeable membrane, it facilitated communication within the city while remaining stubbornly unfamiliar to those who had not grown up speaking this special geographic dialect.

Historically, the relative illegibility to outsiders of some urban neighborhoods (or of their rural analogues, such as hills, marshes, and forests) has provided a vital margin of political safety from control by outside elites. A simple way of determining whether this margin exists is to ask if an outsider would have needed a local guide (a native tracker) in order to find her way successfully. If the answer is yes, then the community or terrain in question enjoys at least a small measure of insulation from outside intrusion. Coupled with patterns of local solidarity, this insulation has proven politically valuable in such disparate contexts as eighteenth- and early nineteenth-century urban riots over bread prices in Europe, the Front de Libération Nationale's tenacious resistance to the French in the Casbah of Algiers,[2] and the politics of the bazaar that helped to bring down the Shah of Iran. Illegibility, then, has been and remains a reliable resource for political autonomy.[3]

Stopping short of redesigning cities in order to make them more legible (a subject that we shall soon explore), state authorities endeavored to map complex, old cities in a way that would facilitate policing and control. Most of the major cities of France were thus the subject of careful military mapping (*reconnaissances militaires*), particularly after the Revolution. When urban revolts occurred, the authorities wanted to be able to move quickly to the precise locations that would enable them to contain or suppress the rebellions effectively.[4]

States and city planners have striven, as one might expect, to overcome this spatial unintelligibility and to make urban geography transparently legible from without. Their attitude toward what they regarded as the higgledy-piggledy profusion of unplanned cities was not unlike the attitude of foresters to the natural profusion of the unplanned forest. The origin of grids or geometrically regular settlements may lie in a straightforward military logic. A square, ordered, formulaic military camp on the order of the Roman *castra* has many advantages. Soldiers can easily learn the techniques of building it; the commander of the troops knows exactly in which disposition his subalterns and various troops lie; and any Roman messenger or officer who arrives at the camp will know where to find the officer he seeks. On a more speculative note, a far-flung, polyglot empire may find it symbolically useful to have its camps and towns laid out according to formula as a stamp of its order and authority. Other things being equal, the city laid out according to a simple, repetitive logic will be easiest to administer and to police.

Whatever the political and administrative conveniences of a geometric cityscape, the Enlightenment fostered a strong aesthetic that looked with enthusiasm on straight lines and visible order. No one expressed the prejudice more clearly than Descartes: "These ancient cities that were once mere *straggling* villages and have become in the course of time great cities are commonly quite *poorly laid out* compared to those *well-ordered towns that an engineer lays out on a vacant plane* as it suits his fancy. And although, upon considering one-by-one the buildings in the former class of towns, one finds as much art or more than one finds in the latter class of towns, still, upon seeing how the buildings are arranged—*here a large one, there a small one*—and how *they make the streets crooked and uneven,* one will say that *it is chance more than the will of some men using their reason that has arranged them thus.*"[5]

Descartes's vision conjures up the urban equivalent of the scientific forest: streets laid out in straight lines intersecting at right angles, buildings of uniform design and size, the whole built according to a single, overarching plan.

The elective affinity between a strong state and a uniformly laid out

city is obvious. Lewis Mumford, the historian of urban form, locates the modern European origin of this symbiosis in the open, legible baroque style of the Italian city-state. He claims, in terms that Descartes would have found congenial, "It was one of the triumphs of the baroque mind to organize space, to make it continuous, reduce it to measure and order."[6] More to the point, the baroque redesigning of medieval cities—with its grand edifices, vistas, squares, and attention to uniformity, proportion, and perspective—was intended to reflect the grandeur and awesome power of the prince. Aesthetic considerations frequently won out over the existing social structure and the mundane functioning of the city. "Long before the invention of bulldozers," Mumford adds, "the Italian military engineer developed, through his professional specialization in destruction, a bulldozing habit of mind: one that sought to clear the ground of encumbrances, so as to make a clear beginning on its own inflexible mathematical lines."[7]

The visual power of the baroque city was underwritten by scrupulous attention to the military security of the prince from internal as well as external enemies. Thus both Alberti and Palladio thought of main thoroughfares as military roads (*viae militaires*). Such roads had to be straight, and, in Palladio's view, "the ways will be more convenient if they are made everywhere equal: that is to say that there will be *no part in them where armies may not easily march*."[8]

There are, of course, many cities approximating Descartes's model. For obvious reasons, most have been planned from the ground up as new, often utopian cities.[9] Where they have not been built by imperial decrees, they have been designed by their founding fathers to accommodate more repetitive and uniform squares for future settlement.[10] A bird's-eye view of central Chicago in the late nineteenth century (William Penn's Philadelphia or New Haven would do equally well) serves as an example of the grid city (figure 9).

From an administrator's vantage point, the ground plan of Chicago is nearly utopian. It offers a quick appreciation of the ensemble, since the entirety is made up of straight lines, right angles, and repetitions.[11] Even the rivers seem scarcely to interrupt the city's relentless symmetry. For an outsider—or a policeman—finding an address is a comparatively simple matter; no local guides are required. The knowledge of local citizens is not especially privileged vis-à-vis that of outsiders. If, as is the case in upper Manhattan, the cross streets are consecutively numbered and are intersected by longer avenues, also consecutively numbered, the plan acquires even greater transparency.[12] The aboveground order of a grid city facilitates its underground order in the layout of water pipes, storm drains, sewers, electric cables, natural

9. Map of downtown Chicago, circa 1893

gas lines, and subways—an order no less important to the administrators of a city. Delivering mail, collecting taxes, conducting a census, moving supplies and people in and out of the city, putting down a riot or insurrection, digging for pipes and sewer lines, finding a felon or conscript (providing he is at the address given), and planning public transportation, water supply, and trash removal are all made vastly simpler by the logic of the grid.

Three aspects of this geometric order in human settlement bear emphasis. The first is that the order in question is most evident, not at street level, but rather from above and from outside. Like a marcher in a parade or like a single riveter in a long assembly line, a pedestrian in the middle of this grid cannot instantly perceive the larger design of the city. The symmetry is either grasped from a representation—it is in fact what one would expect if one gave a schoolchild a ruler and a blank piece of paper—or from the vantage point of a helicopter hovering far above the ground: in short, a God's-eye view, or the view of an absolute ruler. This spatial fact is perhaps inherent in the process of urban or architectural planning itself, a process that involves miniaturization and scale models upon which patron and planner gaze down, exactly as if they were in a helicopter.[13] There is, after all, no other way of visually imagining what a large-scale construction project will look like when it is completed except by a miniaturization of this

kind. It follows, I believe, that such plans, which have the scale of toys, are judged for their sculptural properties and visual order, often from a perspective that no or very few human observers will ever replicate.

The miniaturization imaginatively achieved by scale models of cities or landscapes was practically achieved with the airplane. The mapping tradition of the bird's-eye view, evident in the map of Chicago, was no longer a mere convention. By virtue of its great distance, an aerial view resolved what might have seemed ground-level confusion into an apparently vaster order and symmetry. It would be hard to exaggerate the importance of the airplane for modernist thought and planning. By offering a perspective that flattened the topography as if it were a canvas, flight encouraged new aspirations to "synoptic vision, rational control, planning, and spatial order."[14]

A second point about an urban order easily legible from outside is that the grand plan of the ensemble has no necessary relationship to the order of life as it is experienced by its residents. Although certain state services may be more easily provided and distant addresses more easily located, these apparent advantages may be negated by such perceived disadvantages as the absence of a dense street life, the intrusion of hostile authorities, the loss of the spatial irregularities that foster coziness, gathering places for informal recreation, and neighborhood feeling. The formal order of a geometrically regular urban space is just that: formal order. Its visual regimentation has a ceremonial or ideological quality, much like the order of a parade or a barracks. The fact that such order works for municipal and state authorities in administering the city is no guarantee that it works for citizens. Provisionally, then, we must remain agnostic about the relation between formal spatial order and social experience.

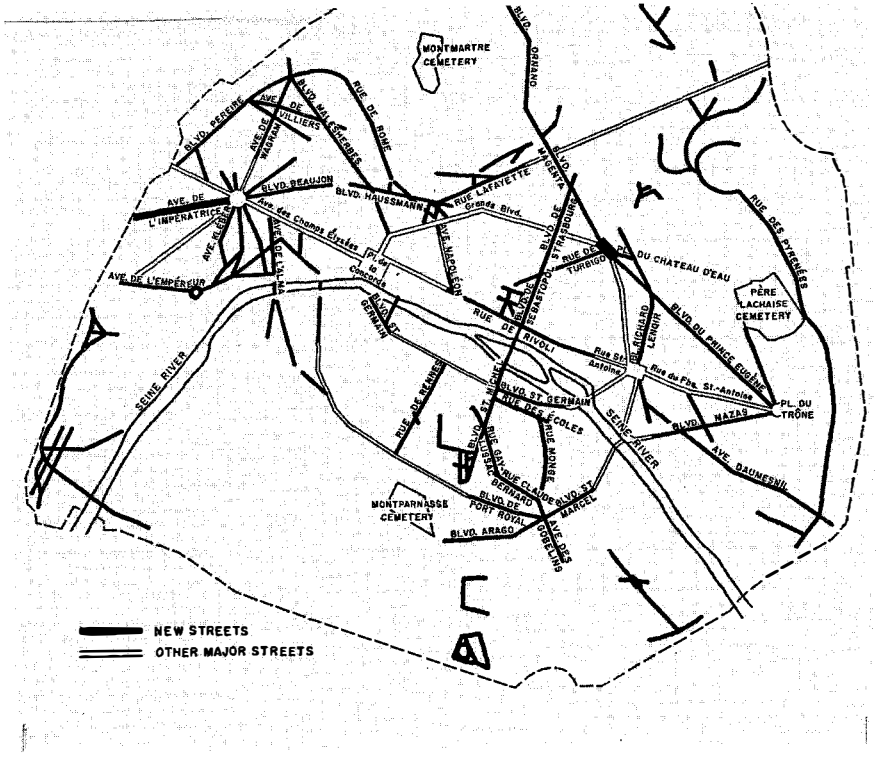
The third notable aspect of homogeneous, geometrical, uniform property is its convenience as a standardized commodity for the market. Like Jefferson's scheme for surveying or the Torrens system for titling open land, the grid creates regular lots and blocks that are ideal for buying and selling. Precisely because they are abstract units detached from any ecological or topographical reality, they resemble a kind of currency which is endlessly amenable to aggregation and fragmentation. This feature of the grid plan suits equally the surveyor, the planner, and the real-estate speculator. Bureaucratic and commercial logic, in this instance, go hand in hand. As Mumford notes, "The beauty of this mechanical pattern, from the commercial standpoint, should be plain. This plan offers the engineer none of those special problems that irregular parcels and curved boundary lines present. An office boy could figure out the number of square feet involved in a street opening or in a sale of land: even a lawyer's clerk could write a description of the necessary deed of sale, merely by filling in with the proper dimensions the standard document. With a T-square and a triangle, finally, the municipal engineer could, without the slightest training as either an architect or a sociologist, 'plan' a metropolis, with its standard lots, its standard blocks, its standard width streets. . . . The very absence of more specific adaptation to landscape or to human purpose only increased, by its very indefiniteness, *its general usefulness for exchange*."[15]

The vast majority of Old World cities are, in fact, some historical amalgam of a Bruges and a Chicago. Although more than one politician, dictator, and city planner have devised plans for the total recasting of an existing city, these dreams came at such cost, both financial and political, that they have rarely left the drawing boards. Piecemeal planning, by contrast, is far more common. The central, older core of many cities remains somewhat like Bruges, whereas the newer outskirts are more likely to exhibit the marks of one or more plans. Sometimes, as in the sharp contrast between old Delhi and the imperial capital of New Delhi, the divergence is formalized.

Occasionally, authorities have taken draconian steps to retrofit an existing city. The redevelopment of Paris by the prefect of the Seine, Baron Haussmann, under Louis Napoleon was a grandiose public works program stretching from 1853 to 1869. Haussmann's vast scheme absorbed unprecedented amounts of public debt, uprooted tens of thousands of people, and could have been accomplished only by a single executive authority not directly accountable to the electorate.

The logic behind the reconstruction of Paris bears a resemblance to the logic behind the transformation of old-growth forests into scientific forests designed for unitary fiscal management. There was the same emphasis on simplification, legibility, straight lines, central management, and a synoptic grasp of the ensemble. As in the case of the forest, much of the plan was achieved. One chief difference, however, was that Haussmann's plan was devised less for fiscal reasons than for its impact on the conduct and sensibilities of Parisians. While the plan did create a far more legible fiscal space in the capital, this was a byproduct of the desire to make the city more governable, prosperous, healthy, and architecturally imposing.[16] The second difference was, of course, that those uprooted by the urban planning of the Second Empire could, and did, strike back. As we shall see, the retrofitting of Paris foreshadows many of the paradoxes of authoritarian high-modernist planning that we will soon examine in greater detail.

The plan reproduced in figure 10 shows the new boulevards constructed to Haussmann's measure as well as the prerevolutionary inner



10. Map of Paris, 1870, showing the principal new streets built between 1850 and 1870

boulevards, which were widened and straightened.[17] But the retrofit, seen merely as a new street map, greatly underestimates the transformation. For all the demolition and construction required, for all the new legibility added to the street plan, the new pattern bore strong traces of an accommodation with "old-growth" Paris. The outer boulevards, for example, follow the line of the older customs (*octroi*) wall of 1787. But Haussmann's scheme was far more than a traffic reform. The new legibility of the boulevards was accompanied by changes that revolutionized daily life: new aqueducts, a much more effective sewage system, new rail lines and terminals, centralized markets (Les Halles), gas lines and lighting, and new parks and public squares.[18] The new Paris created by Louis Napoleon became, by the turn of the century, a widely admired public works miracle and shrine for would-be planners from abroad.

At the center of Louis Napoleon's and Haussmann's plans for Paris lay the military security of the state. The redesigned city was, above

all, to be made safe against popular insurrections. As Haussmann wrote, "The order of this Queen-city is one of the main pre-conditions of general [public] security."[19] Barricades had gone up nine times in the twenty-five years before 1851. Louis Napoleon and Haussmann had seen the revolutions of 1830 and 1848; more recently, the June Days and resistance to Louis Napoleon's coup represented the largest insurrection of the century. Louis Napoleon, as a returned exile, was well aware of how tenuous his hold on power might prove.

The geography of insurrection, however, was not evenly distributed across Paris. Resistance was concentrated in densely packed, working-class *quartiers*, which, like Bruges, had complex, illegible street plans.[20] The 1860 annexation of the "inner suburbs" (located between the customs wall and the outer fortifications and containing 240,000 residents) was explicitly designed to gain mastery over a *ceinture sauvage* that had thus far escaped police control. Haussmann described this area as a "dense belt of suburbs, given over to twenty different administrations, built at random, covered by an inextricable network of narrow and tortuous public ways, alleys, and dead-ends, where a nomadic population without any real ties to the land [property] and without any effective surveillance, grows at a prodigious speed."[21] Within Paris itself, there were such revolutionary *foyers* as the Marais and especially the Faubourg Saint-Antoine, both of which had been determined centers of resistance to Louis Napoleon's coup d'état.

The military control of these insurrectionary spaces—spaces that had not yet been well mapped—was integral to Haussmann's plan.[22] A series of new avenues between the inner boulevards and the customs wall was designed to facilitate movement between the barracks on the outskirts of the city and the subversive districts. As Haussmann saw it, his new roads would ensure multiple, direct rail and road links between each district of the city and the military units responsible for order there.[23] Thus, for example, new boulevards in northeastern Paris allowed troops to rush from the Courbevoie barracks to the Bastille and then to subdue the turbulent Faubourg Saint-Antoine.[24] Many of the new rail lines and stations were located with similar strategic goals in mind. Where possible, insurrectionary quartiers were demolished or broken up by new roads, public spaces, and commercial development. Explaining the need for a loan of 50 million francs to begin the work, Léon Faucher emphasized state security needs: "The interests of public order, no less than those of salubrity, demand that a wide swath be cut as soon as possible across this district of barricades."[25]

The reconstruction of Paris was also a necessary public-health mea-

sure. And here the steps that the hygienists said would make Paris more healthful would at the same time make it more efficient economically and more secure militarily. Antiquated sewers and cesspools, the droppings of an estimated thirty-seven thousand horses (in 1850), and the unreliable water supply made Paris literally pestilential. The city had the highest death rate in France and was most susceptible to virulent epidemics of cholera; in 1831, the disease killed 18,400 people, including the prime minister. And it was in those districts of revolutionary resistance where, because of crowding and lack of sanitation, the rates of mortality were highest.[26] Haussmann's Paris was, for those who were not expelled, a far healthier city; the greater circulation of air and water and the exposure to sunlight reduced the risk of epidemics just as the improved circulation of goods and labor (healthier labor, at that) contributed to the city's economic well-being. A utilitarian logic of labor productivity and commercial success went hand in hand with strategic and public-health concerns.

The politico-aesthetic tastes of the driving force behind the transformation of Paris, Louis Napoleon himself, were also decisive. When Haussmann was appointed prefect of the Seine, Louis Napoleon handed him a map that provided for the central market, the Bois de Bologne, and many of the streets eventually built. There is no doubt that Louis Napoleon's plans drew heavily from the ideas of the Saint Simonists in their visionary journal *Le globe* and from the model urban communities sketched by Fourier and Cabet.[27] Their grandiose designs appealed to his own determination to have the new grandeur of the capital city serve as testimony to the grandeur of the regime.

As happens in many authoritarian modernizing schemes, the political tastes of the ruler occasionally trumped purely military and functional concerns. Rectilinear streets may have admirably assisted the mobilization of troops against insurgents, but they were also to be flanked by elegant facades and to terminate in imposing buildings that would impress visitors.[28] Uniform modern buildings along the new boulevards may have represented healthier dwellings, but they were often no more than facades. The zoning regulations were almost exclusively concerned with the visible surfaces of buildings, but behind the facades, builders could build crowded, airless tenements, and many of them did.[29]

The new Paris, as T. J. Clark has observed, was intensely visualized: "Part of Haussmann's purpose was to give modernity a shape, and he seemed at the time to have a measure of success in doing so; he built a set of forms in which the city appeared to be visible, even intelligible: Paris, to repeat the formula, was becoming a spectacle."[30]

Legibility, in this case, was achieved by a much more pronounced

segregation of the population by class and function. Each fragment of Paris increasingly took on a distinctive character of dress, activity, and wealth—bourgeois shopping district, prosperous residential quarter, industrial suburb, artisan quarter, bohemian quarter. It was a more easily managed and administered city and a more "readable" city because of Haussmann's heroic simplifications.

As in most ambitious schemes of modern order, there was a kind of evil twin to Haussmann's spacious and imposing new capital. The hierarchy of urban space in which the rebuilt center of Paris occupied pride of place presupposed the displacement of the urban poor toward the periphery.[31] Nowhere was this more true than in Belleville, a popular working-class quarter to the northeast which grew into a town of sixty thousand people by 1856. Many of its residents had been disinherited by Haussmann's demolitions; some called it a community of outcasts. By the 1860s, it had become a suburban equivalent of what the Faubourg Saint-Antoine had been earlier—an illegible, insurrectionary *foyer*. "The problem was not that Belleville was not a community, but that it became the sort of community which the bourgeoisie feared, which the police could not penetrate, which the government could not regulate, where the popular classes, with all their unruly passions and political resentments, held the upper hand."[32] If, as many claim, the Commune of Paris in 1871 was partly an attempt to reconquer the city ("la reconquete de la Ville par la Ville")[33] by those exiled to the periphery by Haussmann, then Belleville was the geographical locus of that sentiment. The Communards, militarily on the defensive in late May 1871, retreated toward the northeast and Belleville, where, at the Belleville town hall, they made their last stand. Treated as a den of revolutionaries, Belleville was subjected to a brutal military occupation.

Two diagnostic ironies marked the suppression of the Commune. The first was that the strategic design of Haussmann was triumphant. The boulevards and rail lines that the Second Empire had hoped would foil a popular insurrection had proved their value. "Thanks to Haussmann, the Versailles army could move in one fell swoop from the Place du Chateau d'eau to Belleville."[34] The second irony was that, just as the Faubourg Saint-Antoine had been effaced by Haussmann's demolitions, so too was much of the newly offending quarter obliterated by the building of the Eglise Sacré Coeur, built "in the guilty town . . . as restitution made on the site of the crime."[35]

The Creation of Surnames

Some of the categories that we most take for granted and with which we now routinely apprehend the social world had their origin in state projects of standardization and legibility. Consider, for example, something as fundamental as permanent surnames.

A vignette from the popular film *Witness* illustrates how, when among strangers, we do rely on surnames as key navigational aids.[36] The detective in the film is attempting to locate a young Amish boy who may have witnessed a murder. Although the detective has a surname to go on, he is thwarted by several aspects of Amish traditionalism, including the antique German dialect spoken by the Amish. His first instinct is, of course, to reach for the telephone book—a list of proper names and addresses—but the Amish don't have telephones. Furthermore, he learns, the Amish have a very small number of last names. His quandary reminds us that the great variety of surnames and given names in the United States allows us to identify unambiguously a large number of individuals whom we may never have met. A world without such names is bewildering; indeed, the detective finds Amish society so opaque that he needs a native tracker to find his way.

Customary naming practices throughout much of the world are enormously rich. Among some peoples, it is not uncommon for individuals to have different names during different stages of life (infancy, childhood, adulthood) and in some cases after death; added to these are names used for joking, rituals, and mourning and names used for interactions with same-sex friends or with in-laws. Each name is specific to a certain phase of life, social setting, or interlocutor. A single individual will frequently be called by several different names, depending on the stage of life and the person addressing him or her. To the question "What is your name?" which has a more unambiguous answer in the contemporary West, the only plausible answer is "It depends."[37]

For the insider who grows up using these naming practices, they are both legible and clarifying. Each name and the contexts of its use convey important social knowledge. Like the network of alleys in Bruges, the assortment of local weights and measures, and the intricacies of customary land tenure, the complexity of naming has some direct and often quite practical relations to local purposes. For an outsider, however, this byzantine complexity of names is a formidable obstacle to understanding local society. Finding someone, let alone situating him or her in a kinship network or tracing the inheritance of property, becomes a major undertaking. If, in addition, the population in question has reason to conceal its identity and its activities from external authority, the camouflage value of such naming practices is considerable.

The invention of permanent, inherited patronyms was, after the administrative simplification of nature (for example, the forest) and space (for example, land tenure), the last step in establishing the necessary preconditions of modern statecraft. In almost every case it was a state project, designed to allow officials to identify, unambiguously, the majority of its citizens. When successful, it went far to create a legible people.[38] Tax and tithe rolls, property rolls, conscription lists, censuses, and property deeds recognized in law were inconceivable without some means of fixing an individual's identity and linking him or her to a kin group. Campaigns to assign permanent patronyms have typically taken place, as one might expect, in the context of a state's exertions to put its fiscal system on a sounder and more lucrative footing. Fearing, with good reason, that an effort to enumerate and register them could be a prelude to some new tax burden or conscription, local officials and the population at large often resisted such campaigns.

If permanent surnames were largely a project of official legibility, then they should have appeared earliest in those societies with precocious states. China provides a striking example.[39] By roughly the fourth century B.C. (although the exact timing and comprehensiveness are in dispute), the Qin dynasty had apparently begun imposing surnames on much of its population and enumerating them for the purposes of taxes, forced labor, and conscription.[40] This initiative may well have been the origin of the term "laobaixing," meaning, literally, "the old one hundred surnames," which in modern China has come to mean "the common people." Before this, the fabled Chinese patrilineage, while established among ruling houses and related lines, was absent among commoners. They did not have surnames, nor did they even imitate elite practices in this respect. The assigning of patronyms by family was integral to state policy promoting the status of (male) family heads, giving them legal jurisdiction over their wives, children, and juniors and, not incidentally, holding them accountable for the fiscal obligations of the entire family.[41] This (Qin) policy required registering the entire population, after which the "hodgepodge of terms by which people were called were all classified as *hsing* [surname], to be passed down to their patrilineal descendants indefinitely."[42] On this account, both the establishment of permanent patronyms and the creation of the patrilineal family itself can be attributed to early state simplification.

Until at least the fourteenth century, the great majority of Europeans did not have permanent patronymics.[43] An individual's name was typically his given name, which might well suffice for local identi-

fication. If something more were required, a second designation could be added, indicating his occupation (in the English case, smith, baker), his geographical location (hill, edgewood), his father's given name, or a personal characteristic (short, strong). These secondary designations were not permanent surnames; they did not survive their bearers, unless by chance, say, a baker's son went into the same trade and was called by the same second designation.

We can learn something about the creation of permanent patronyms in Europe by the documentation left behind from the failed census (*catasto*) of the Florentine state in 1427.[44] The catasto was an audacious attempt to rationalize the state's revenues and military strength by specifying its subjects and their wealth, residences, landholdings, and ages.[45] Close study of these records demonstrates, first, that, as in the Chinese case, state initiative created new surnames rather than simply recording existing surnames. It is thus often impossible to know whether a state-recorded surname has any social existence outside the role of the text in which it is inscribed. Second, the variable imposition of permanent surnames within a territory—in this case Tuscany—serves as a rough-and-ready gauge of state capacity.

Family names in early fifteenth-century Tuscany were confined to a very few powerful, property-owning lineages (such as the Strozzi). For such lineages, a surname was a way of achieving social recognition as a "corporate group," and kin and affines adopted the name as a way of claiming the backing of an influential lineage. Beyond this narrow segment of society and a small urban patriciate that copied its practices, there were no permanent family names.

How, in this case, was the catasto office to pinpoint and register an individual, let alone his location, his property, and his age? When making his declaration, a typical Tuscan provided not only his own given name but those of his father and perhaps his grandfather as well, in quasi-biblical fashion (Luigi, son of Giovanni, son of Paolo). Given the limited number of baptismal names and the tendency of many families to repeat names in alternate generations, even this sequence might not suffice for unambiguous identification. The subject might then add his profession, his nickname, or a personal characteristic. There is no evidence that any of these designations was a permanent patronym, although this exercise and others like it might have eventually served to crystallize surnames, at least for documentary purposes. In the final analysis, the Florentine state was inadequate to the administrative feat intended by the catasto. Popular resistance, the noncompliance of many local elites, and the arduousness and cost of the census exercise doomed the project, and officials returned to the earlier fiscal system.

What evidence we have suggests that second names of any kind became rarer as distance from the state's fiscal reach increased. Whereas one-third of the households in Florence declared a second name, the proportion dropped to one-fifth for secondary towns and to one-tenth in the countryside. It was not until the seventeenth century that family names crystallized in the most remote and poorest areas of Tuscany—the areas that would have had the least contact with officialdom.

A comparable connection between state building and the invention of permanent patronyms exists for fourteenth- and fifteenth-century England. As in Tuscany, in England only wealthy aristocratic families tended to have fixed surnames. In the English case such names referred typically to families' places of origin in Normandy (for example, Baumont, Percy, Disney) or to the places in England that they held in fief from William the Conqueror (for example, Gerard de Sussex). For the rest of the male population, the standard practice of linking only father and son by way of identification prevailed.[46] Thus, William Robertson's male son might be called Thomas Williamson (son of William), while Thomas's son, in turn, might be called Henry Thompson (Thomas's son). Note that the grandson's name, by itself, bore no evidence of his grandfather's identity, complicating the tracing of descent through names alone. A great many northern European surnames, though now permanent, still bear, like a fly caught in amber, particles that echo their antique purpose of designating who a man's father was (Fitz–, O'–, –sen, –son, –s, Mac–, –vich).[47] At the time of their establishment, last names often had a kind of local logic to them: John who owned a mill became John Miller; John who made cart wheels became John Wheelwright; John who was physically small became John Short. As their male descendants, whatever their occupations or stature, retained the patronyms, the names later assumed an arbitrary cast.

The development of the personal surname (literally, a name added to another name, and not to be confused with a permanent patronym) went hand in hand with the development of written, official documents such as tithe records, manorial dues rolls, marriage registers, censuses, tax records, and land records.[48] They were necessary to the successful conduct of any administrative exercise involving large numbers of people who had to be individually identified and who were not known personally by the authorities. Imagine the dilemma of a tithe or capitation-tax collector faced with a male population, 90 percent of whom bore just six Christian names (John, William, Thomas, Robert, Richard, and Henry). Some second designation was absolutely essential for the records, and, if the subject suggested none, it was invented for him by the recording clerk. These second designations and the rolls

of names that they generated were to the legibility of the population what uniform measurement and the cadastral map were to the legibility of real property. While the subject might normally prefer the safety of anonymity, once he was forced to pay the tax, it was then in his interest to be accurately identified in order to avoid paying the same tax twice. Many of these fourteenth-century surnames were clearly nothing more than administrative fictions designed to make a population fiscally legible. Many of the subjects whose "surnames" appear in the documents were probably unaware of what had been written down, and, for the great majority, the surnames had no social existence whatever outside the document.[49] Only on very rare occasions does one encounter an entry, such as "William Carter, tailor," that implies that we may be dealing with a permanent patronym.

The increasing intensity of interaction with the state and statelike structures (large manors, the church) exactly parallels the development of permanent, heritable patronyms. Thus, when Edward I clarified the system of landholding, establishing primogeniture and hereditary copyhold tenure for manorial land, he provided a powerful incentive for the adoption of permanent patronyms. Taking one's father's surname became, for the eldest son at least, part of a claim to the property on the father's death.[50] Now that property claims were subject to state validation, surnames that had once been mere bureaucratic fantasies took on a social reality of their own. One imagines that for a long time English subjects had in effect two names—their local name and an "official," fixed patronym. As the frequency of interaction with impersonal administrative structures increased, the official name came to prevail in all but a man's intimate circle. Those subjects living at a greater distance, both socially and geographically, from the organs of state power, as did the Tuscans, acquired permanent patronyms much later. The upper classes and those living in the south of England thus acquired permanent surnames before the lower classes and those living in the north did. The Scottish and Welsh acquired them even later.[51]

State naming practices, like state mapping practices, were inevitably associated with taxes (labor, military service, grain, revenue,) and hence aroused popular resistance. The great English peasant rising of 1381 (often called the Wat Tyler Rebellion) is attributed to an unprecedented decade of registrations and assessments of poll taxes.[52] For English as well as for Tuscan peasants, a census of all adult males could not but appear ominous, if not ruinous.

The imposition of permanent surnames on colonial populations offers us a chance to observe a process, telescoped into a decade or less,

that in the West might have taken several generations. Many of the same state objectives animate both the European and the colonial exercises, but in the colonial case, the state is at once more bureaucratized and less tolerant of popular resistance. The very brusqueness of colonial naming casts the purposes and paradoxes of the process in sharp relief.

Nowhere is this better illustrated than in the Philippines under the Spanish.[53] Filipinos were instructed by the decree of November 21, 1849, to take on permanent Hispanic surnames. The author of the decree was Governor (and Lieutenant General) Narciso Claveria y Zaldua, a meticulous administrator as determined to rationalize names as he had been determined to rationalize existing law, provincial boundaries, and the calendar.[54] He had observed, as his decree states, that Filipinos generally lacked individual surnames, which might "distinguish them by families," and that their practice of adopting baptismal names drawn from a small group of saints' names resulted in great "confusion." The remedy was the *catalogo*, a compendium not only of personal names but also of nouns and adjectives drawn from flora, fauna, minerals, geography, and the arts and intended to be used by the authorities in assigning permanent, inherited surnames. Each local official was to be given a supply of surnames sufficient for his jurisdiction, "taking care that the distribution be made by letters [of the alphabet]."[55] In practice, each town was given a number of pages from the alphabetized catalogo, producing whole towns with surnames beginning with the same letter. In situations where there has been little in-migration in the past 150 years, the traces of this administrative exercise are still perfectly visible across the landscape: "For example, in the Bikol region, the entire alphabet is laid out like a garland over the provinces of Albay, Sorsogon, and Catanduanes which in 1849 belonged to the single jurisdiction of Albay. Beginning with *A* at the provincial capital, the letters *B* and *C* mark the towns along the coast beyond Tabaco to Tiwi. We return and trace along the coast of Sorsogon the letters *E* to *L;* then starting down the Iraya Valley at Daraga with *M*, we stop with *S* to Polangui and Libon, and finish the alphabet with a quick tour around the island of Catanduanes."[56]

The confusion for which the decree is the antidote is largely that of the administrator and the tax collector. Universal last names, they believe, will facilitate the administration of justice, finance, and public order as well as make it simpler for prospective marriage partners to calculate their degree of consanguinity.[57] For a utilitarian state builder of Claveria's temper, however, the ultimate goal was a complete and legible list of subjects and taxpayers. This is abundantly clear from the

short preamble to the decree: "In view of the extreme usefulness and practicality of this measure, the time has come to issue a directive for the formation of a civil register [formerly a clerical function], which may not only fulfill and ensure the said objectives, but may also serve as a basis for the statistics of the country, guarantee the collection of taxes, the regular performance of personal services, and the receipt of payment for exemptions. It likewise provides exact information of the movement of the population, thus avoiding unauthorized migrations, hiding taxpayers, and other abuses."[58]

Drawing on the accurate lists of citizens throughout the colony, Claveria envisioned each local official constructing a table of eight columns specifying tribute obligations, communal labor obligations, first name, surname, age, marital status, occupation, and exemptions. A ninth column, for updating the register, would record alterations in status and would be submitted for inspection every month. Because of their accuracy and uniformity, these registers would allow the state to compile the precise statistics in Manila that would make for fiscal efficiency. The daunting cost of assigning surnames to the entire population and building a complete and discriminating list of taxpayers was justified by forecasting that the list, while it might cost as much as twenty thousand pesos to create, would yield one hundred thousand or two hundred thousand pesos in continuing annual revenue.

What if the Filipinos chose to ignore their new last names? This possibility had already crossed Claveria's mind, and he took steps to make sure that the names would stick. Schoolteachers were ordered to forbid their students to address or even know one another by any name except the officially inscribed family name. Those teachers who did not apply the rule with enthusiasm were to be punished. More efficacious perhaps, given the minuscule school enrollment, was the proviso that forbade priests and military and civil officials from accepting any document, application, petition, or deed that did not use the official surnames. All documents using other names would be null and void.

Actual practice, as one might expect, fell considerably short of Claveria's administrative utopia of legible and regimented taxpayers. The continued existence of such non-Spanish surnames as Magsaysay or Macapagal suggests that part of the population was never mustered for this exercise. Local officials submitted incomplete returns or none at all. And there was another serious problem, one that Claveria had foreseen but inadequately provided for. The new registers rarely recorded, as they were supposed to, the previous names used by the registrants. This meant that it became exceptionally difficult for officials to trace back property and taxpaying to the period before the

transformation of names. The state had in effect blinded its own hindsight by the very success of its new scheme.

With surnames, as with forests, land tenure, and legible cities, actual practice never achieved anything like the simplified and uniform perfection to which its designers had aspired. As late as 1872, an attempt at taking a census proved a complete fiasco, and it was not tried again until just before the revolution of 1896. Nevertheless, by the twentieth century, the vast majority of Filipinos bore the surnames that Claveria had dreamed up for them. The increasing weight of the state in people's lives and the state's capacity to insist on its rules and its terms ensured that.

Universal last names are a fairly recent historical phenomenon. Tracking property ownership and inheritance, collecting taxes, maintaining court records, performing police work, conscripting soldiers, and controlling epidemics were all made immeasurably easier by the clarity of full names and, increasingly, fixed addresses. While the utilitarian state was committed to a complete inventory of its population, liberal ideas of citizenship, which implied voting rights and conscription, also contributed greatly to the standardization of naming practices. The legislative imposition of permanent surnames is particularly clear in the case of Western European Jews who had no tradition of last names. A Napoleonic decree "concernant les Juifs qui n'ont pas de nom de famille et de prénoms fixes," in 1808, mandated last names.[59] Austrian legislation of 1787, as part of the emancipation process, required Jews to choose last names or, if they refused, to have fixed last names chosen for them. In Prussia the emancipation of the Jews was contingent upon the adoption of surnames.[60] Many of the immigrants to the United States, Jews and non-Jews alike, had no permanent surnames when they set sail. Very few, however, made it through the initial paperwork without an official last name that their descendants carry still.

The process of creating fixed last names continues in much of the Third World and on the "tribal frontiers" of more developed countries.[61] Today, of course, there are now many other state-impelled standard designations that have vastly improved the capacity of the state to identify an individual. The creation of birth and death certificates, more specific addresses (that is, more specific than something like "John-on-the-hill"), identity cards, passports, social security numbers, photographs, fingerprints, and, most recently, DNA profiles have superseded the rather crude instrument of the permanent surname. But the surname was a first and crucial step toward making individual citizens officially legible, and along with the photograph, it is still the first fact on documents of identity.

The Directive for a Standard, Official Language

The great cultural barrier imposed by a separate language is perhaps the most effective guarantee that a social world, easily accessible to insiders, will remain opaque to outsiders.[62] Just as the stranger or state official might need a local guide to find his way around sixteenth-century Bruges, he would need a local interpreter in order to understand and be understood in an unfamiliar linguistic environment. A distinct language, however, is a far more powerful basis for autonomy than a complex residential pattern. It is also the bearer of a distinctive history, a cultural sensibility, a literature, a mythology, a musical past.[63] In this respect, a unique language represents a formidable obstacle to state knowledge, let alone colonization, control, manipulation, instruction, or propaganda.

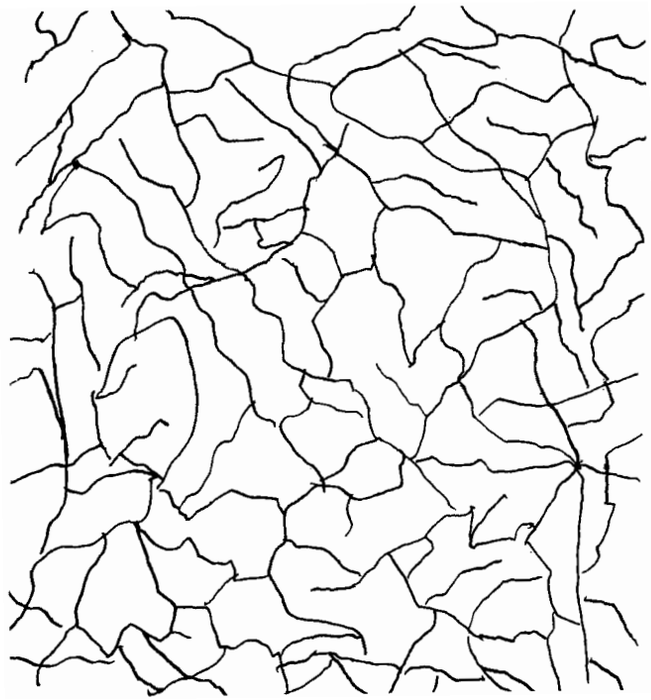
Of all state simplifications, then, the imposition of a single, official language may be the most powerful, and it is the precondition of many other simplifications. This process should probably be viewed, as Eugen Weber suggests in the case of France, as one of domestic colonization in which various foreign provinces (such as Brittany and Occitanie) are linguistically subdued and culturally incorporated.[64] In the first efforts made to insist on the use of French, it is clear that the state's objective was the legibility of local practice. Officials insisted that every legal document—whether a will, document of sale, loan instrument, contract, annuity, or property deed—be drawn up in French. As long as these documents remained in local vernaculars, they were daunting to an official sent from Paris and virtually impossible to bring into conformity with central schemes of legal and administrative standardization. The campaign of linguistic centralization was assured of some success since it went hand in hand with an expansion of state power. By the late nineteenth century, dealing with the state was unavoidable for all but a small minority of the population. Petitions, court cases, school documents, applications, and correspondence with officials were all of necessity written in French. One can hardly imagine a more effective formula for immediately devaluing local knowledge and privileging all those who had mastered the official linguistic code. It was a gigantic shift in power. Those at the periphery who lacked competence in French were rendered mute and marginal. They were now in need of a local guide to the new state culture, which appeared in the form of lawyers, *notaires*, schoolteachers, clerks, and soldiers.[65]

A cultural project, as one might suspect, lurked behind the linguistic centralization. French was seen as the bearer of a national civilization; the purpose of imposing it was not merely to have provincials digest the Code Napoleon but also to bring them Voltaire, Racine, Parisian newspapers, and a national education. As Weber provocatively puts it, "There can be no clearer expression of imperialist sentiment, a white man's burden of Francophony, whose first conquests were to be right at home."[66] Where the command of Latin had once defined participation in a wider culture for a small elite, the command of standard French now defined full participation in French culture. The implicit logic of the move was to define a hierarchy of cultures, relegating local languages and their regional cultures to, at best, a quaint provincialism. At the apex of this implicit pyramid was Paris and its institutions: ministries, schools, academies (including the guardian of the language, l'Académie Française). The relative success of this cultural project hinged on both coercion and inducements. "It was centralization," says Alexandre Sanguinetti, "which permitted the making of France despite the French, or in the midst of their indifference. . . . France is a deliberate political construction for whose creation the central power has never ceased to fight."[67] Standard (Parisian) French and Paris were not only focal points of power; they were also magnets. The growth of markets, physical mobility, new careers, political patronage, public service, and a national educational system all meant that facility in French and connections to Paris were the paths of social advancement and material success. It was a state simplification that promised to reward those who complied with its logic and to penalize those who ignored it.

The Centralization of Traffic Patterns

The linguistic centralization impelled by the imposition of Parisian French as the official standard was replicated in a centralization of traffic. Just as the new dispensation in language made Paris the hub of communication, so the new road and rail systems increasingly favored movement to and from Paris over interregional or local traffic. State policy resembled, in computer parlance, a "hardwiring" pattern that made the provinces far more accessible, far more legible, to central authorities than even the absolutist kings had imagined.

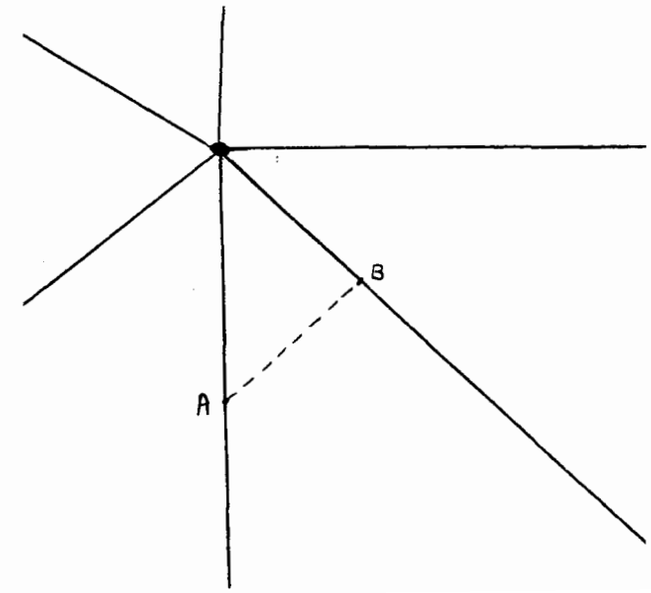
Let us contrast, in an overly schematic way, a relatively uncentralized network of communication, on one hand, with a relatively centralized network, on the other. If mapped, the uncentralized pattern would be the physical image of the actual movements of goods and people along routes *not* created by administrative fiat. Such movements would not be random; they would reflect both the ease of travel



11. Paths created by use and topography

along valleys, by watercourses, and around defiles and also the location of important resources and ritual sites. Weber captures the wealth of human activities that animate these movements across the landscape: "They served professional pursuits, like the special trails followed by glassmakers, carriers or sellers of salt, potters, or those that led to forges, mines, quarries, and hemp fields, or those along which flax, hemp, linen, and yarn were taken to market. There were pilgrimage routes and procession trails."[68]

If we can imagine, for the sake of argument, a place where physical resources are evenly distributed and there are no great physical barriers to movement (such as mountains or swamps), then a map of paths in use might form a network resembling a dense concentration of capillaries (figure 11). The tracings would, of course, never be entirely random. Market towns based on location and resources would constitute small hubs, as would religious shrines, quarries, mines, and other important sites.[69] In the French case as well, the network of roads would have long reflected the centralizing ambitions of local lords and the nation's monarchs. The point of this illustrative idealization, however, is to depict a landscape of communication routes that is only



12. Centralized traffic hub

lightly marked by state centralization. It would resemble in many ways the cityscape of late fourteenth-century Bruges, shown earlier.

Beginning with Colbert, the state-building modernizers of France were bent on superimposing on this pattern a carefully planned grid of administrative centralization.[70] Their scheme, never entirely realized, was to align highways, canals, and ultimately rail lines to radiate out from Paris like the spokes of a wheel (figure 12). The similarity between this grid and the *tire-aire* of the well-managed state forest as conceived by Colbert was not accidental. They were both devised to maximize access and to facilitate central control. And the kind of simplification involved was, again, entirely relative to location. For an official at the hub, it was now much easier to go to *A* or to *B* along the new routes. The layout was designed "to serve the government and the cities and lacking a network of supporting thoroughfares had little to do with popular habit or need. Administrative highways, a historian of the center called them, [were] made for troops to march on and for tax revenues to reach the treasury."[71] For anyone wanting to travel or move goods between *A* and *B*, however, things were not so simple. Just as all documents had to "pass through" the official legal language, so too did much of the commercial traffic have to pass through the capital.

The driving intellectual force behind this *esprit géométrique* was, and has remained, the renowned engineers of the Corps des Ponts et

Chaussées.[72] Victor Legrand, the director of Ponts et des Chaussées, was the originator of the *belle idée* of seven grand lines of junction linking Paris to points from the Atlantic to the Mediterranean. His plan became known as the Legrand Star and was proposed first for canals and then, with greater effect, for railroads (among them the Gare du Nord and Gare de l'Est).[73]

As a centralizing aesthetic, the plan defied the canons of commercial logic or cost-effectiveness. The first phase of the grid, the line from Paris east to Strasbourg and the frontier, ran straight through the plateau of Brie rather than following the centers of population along the Marne. By refusing to conform to the topography in its quest of geometric perfection, the railway line was ruinously expensive compared to English or German railroads. The army had also adopted the Ponts et Chaussées logic, believing that direct rail lines to the borders would be militarily advantageous. They were proven tragically wrong in the Franco-Prussian War of 1870–71.[74]

This retrofitting of traffic patterns had enormous consequences, most of which were intended: linking provincial France and provincial French citizens to Paris and to the state and facilitating the deployment of troops from the capital to put down civil unrest in any department in the nation. It was aimed at achieving, for the military control of the nation, what Haussmann had achieved in the capital itself. It thus empowered Paris and the state at the expense of the provinces, greatly affected the economics of location, expedited central fiscal and military control, and severed or weakened lateral cultural and economic ties by favoring hierarchical links. At a stroke, it marginalized outlying areas in the way that official French had marginalized local dialects.

Conclusion

Officials of the modern state are, of necessity, at least one step—and often several steps—removed from the society they are charged with governing. They assess the life of their society by a series of typifications that are always some distance from the full reality these abstractions are meant to capture. Thus the foresters' charts and tables, despite their synoptic power to distill many individual facts into a larger pattern, do not quite capture (nor are they meant to) the real forest in its full diversity. Thus the cadastral survey and the title deed are a rough, often misleading representation of actual, existing rights to land use and disposal. The functionary of any large organization "sees" the human activity that is of interest to him largely through the simplified approximations of documents and statistics: tax proceeds, lists

of taxpayers, land records, average incomes, unemployment numbers, mortality rates, trade and productivity figures, the total number of cases of cholera in a certain district.

These typifications are indispensable to statecraft. State simplifications such as maps, censuses, cadastral lists, and standard units of measurement represent techniques for grasping a large and complex reality; in order for officials to be able to comprehend aspects of the ensemble, that complex reality must be reduced to schematic categories. The only way to accomplish this is to reduce an infinite array of detail to a set of categories that will facilitate summary descriptions, comparisons, and aggregation. The invention, elaboration, and deployment of these abstractions represent, as Charles Tilly has shown, an enormous leap in state capacity—a move from tribute and indirect rule to taxation and direct rule. Indirect rule required only a minimal state apparatus but rested on local elites and communities who had an interest in withholding resources and knowledge from the center. Direct rule sparked widespread resistance and necessitated negotiations that often limited the center's power, but for the first time, it allowed state officials direct knowledge of and access to a previously opaque society.

Such is the power of the most advanced techniques of direct rule, that it discovers new social truths as well as merely summarizing known facts. The Center for Disease Control in Atlanta is a striking case in point. Its network of sample hospitals allowed it to first "discover"—in the epidemiological sense—such hitherto unknown diseases as toxic shock syndrome, Legionnaires' disease, and AIDS. Stylized facts of this kind are a powerful form of state knowledge, making it possible for officials to intervene early in epidemics, to understand economic trends that greatly affect public welfare, to gauge whether their policies are having the desired effect, and to make policy with many of the crucial facts at hand.[75] These facts permit discriminating interventions, some of which are literally lifesaving.

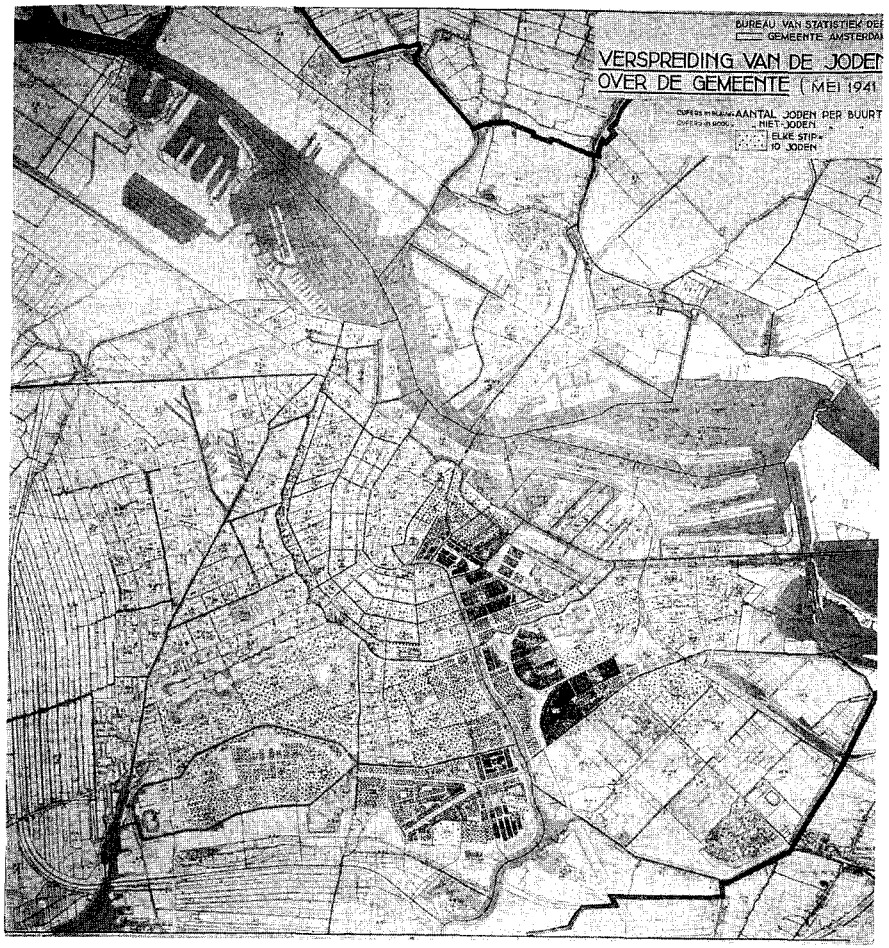
The techniques devised to enhance the legibility of a society to its rulers have become vastly more sophisticated, but the political motives driving them have changed little. Appropriation, control, and manipulation (in the nonpejorative sense) remain the most prominent. If we imagine a state that has no reliable means of enumerating and locating its population, gauging its wealth, and mapping its land, resources, and settlements, we are imagining a state whose interventions in that society are necessarily crude. A society that is relatively opaque to the state is thereby insulated from some forms of finely tuned state interventions, both welcomed (universal vaccinations) and resented (per-

sonal income taxes). The interventions it does experience will typically be mediated by local trackers who know the society from inside and who are likely to interpose their own particular interests. Without this mediation—and often with it—state action is likely to be inept, greatly overshooting or undershooting its objective.

An illegible society, then, is a hindrance to any effective intervention by the state, whether the purpose of that intervention is plunder or public welfare. As long as the state's interest is largely confined to grabbing a few tons of grain and rounding up a few conscripts, the state's ignorance may not be fatal. When, however, the state's objective requires changing the daily habits (hygiene or health practices) or work performance (quality labor or machine maintenance) of its citizens, such ignorance can well be disabling. A thoroughly legible society eliminates local monopolies of information and creates a kind of national transparency through the uniformity of codes, identities, statistics, regulations, and measures. At the same time it is likely to create new positional advantages for those at the apex who have the knowledge and access to easily decipher the new state-created format.

The discriminating interventions that a legible society makes possible can, of course, be deadly as well. A sobering instance is wordlessly recalled by a map produced by the City Office of Statistics of Amsterdam, then under Nazi occupation, in May 1941 (figure 13).[76] Along with lists of residents, the map was the synoptic representation that guided the rounding up of the city's Jewish population, sixty-five thousand of whom were eventually deported.

The map is titled "The Distribution of Jews in the Municipality." Each dot represents ten Jews, a scheme that makes the heavily Jewish districts readily apparent. The map was compiled from information obtained not only through the order for people of Jewish extraction to register themselves but also through the population registry ("exceptionally comprehensive in the Netherlands")[77] and the business registry. If one reflects briefly on the kind of detailed information on names, addresses, and ethnic backgrounds (determined perhaps by names in the population registry or by declaration) and the cartographic exactitude required to produce this statistical representation, the contribution of legibility to state capacity is evident. The Nazi authorities, of course, supplied the murderous purpose behind the exercise, but the legibility provided by the Dutch authorities supplied the means to its efficient implementation.[78] That legibility, I should emphasize, merely amplifies the capacity of the state for discriminating interventions—a capacity that in principle could as easily have been deployed to feed the Jews as to deport them.



13. Map produced by the City Office of Statistics of Amsterdam and entitled "The Distribution of Jews in the Municipality (May 1941)"

Legibility implies a viewer whose place is central and whose vision is synoptic. State simplifications of the kind we have examined are designed to provide authorities with a schematic view of their society, a view not afforded to those without authority. Rather like U.S. highway patrolmen wearing mirrored sunglasses, the authorities enjoy a quasi-monopolistic picture of selected aspects of the whole society. This privileged vantage point is typical of all institutional settings where command and control of complex human activities is paramount. The monastery, the barracks, the factory floor, and the administrative bureaucracy (private or public) exercise many statelike functions and often mimic its information structure as well.

State simplifications can be considered part of an ongoing "project of legibility," a project that is never fully realized. The data from which such simplifications arise are, to varying degrees, riddled with inaccuracies, omissions, faulty aggregations, fraud, negligence, political distortion, and so on. A project of legibility is immanent in any statecraft that aims at manipulating society, but it is undermined by intrastate rivalries, technical obstacles, and, above all, the resistance of its subjects.

State simplifications have at least five characteristics that deserve emphasis. Most obviously, state simplifications are observations of only those aspects of social life that are of official interest. They are *interested*, utilitarian facts. Second, they are also nearly always written (verbal or numerical) *documentary* facts. Third, they are typically *static* facts.[79] Fourth, most stylized state facts are also *aggregate* facts. Aggregate facts may be impersonal (the density of transportation networks) or simply a collection of facts about individuals (employment rates, literacy rates, residence patterns). Finally, for most purposes, state officials need to group citizens in ways that permit them to make a collective assessment. Facts that can be aggregated and presented as averages or distributions must therefore be *standardized* facts. However unique the actual circumstances of the various individuals who make up the aggregate, it is their sameness or, more precisely, their differences along a standardized scale or continuum that are of interest.

The process by which standardized facts susceptible to aggregation are manufactured seems to require at least three steps. The first, indispensable step is the creation of common units of measurement or coding. Size classes of trees, freehold tenure, the metric system for measuring landed property or the volume of grain, uniform naming practices, sections of prairie land, and urban lots of standard sizes are among the units created for this purpose. In the next step, each item or instance falling within a category is counted and classified according to the new unit of assessment. A particular tree reappears as an instance of a certain size class of tree; a particular plot of agricultural land reappears as coordinates in a cadastral map; a particular job reappears as an instance of a category of employment; a particular person reappears bearing a name according to the new formula. Each fact must be recuperated and brought back on stage, as it were, dressed in a new uniform of official weave—as part of "a series in a total classificatory grid."[80] Only in such garb can these facts play a role in the culmination of the process: the creation of wholly new facts by aggregation, following the logic of the new units. One arrives, finally, at synoptic facts that are useful to officials: so many thousands of trees in a given size class, so many thousands of men between the ages of eighteen and thirty-five, so many farms in a given size class, so many students whose surnames begin with the letter *A*, so many people with tuberculosis. Combining several metrics of aggregation, one arrives at quite subtle, complex, heretofore unknown truths, including, for example, the distribution of tubercular patients by income and urban location.

To call such elaborate artifacts of knowledge "state simplifications" risks being misleading. They are anything but simple-minded, and they are often wielded with great sophistication by officials. Rather, the term "simplification" is meant in two quite specific senses. First, the knowledge that an official needs must give him or her a synoptic view of the ensemble; it must be cast in terms that are replicable across many cases. In this respect, such facts must lose their particularity and reappear in schematic or simplified form as a member of a class of facts.[81] Second, in a meaning closely related to the first, the grouping of synoptic facts necessarily entails collapsing or ignoring distinctions that might otherwise be relevant.

Take, for example, simplifications about employment. The working lives of many people are exceptionally complex and may change from day to day. For the purposes of official statistics, however, being "gainfully employed" is a stylized fact; one is or is not gainfully employed. Also, available characterizations of many rather exotic working lives are sharply restricted by the categories used in the aggregate statistics.[82] Those who gather and interpret such aggregate data understand that there is a certain fictional and arbitrary quality to their categories and that they hide a wealth of problematic variation. Once set, however, these thin categories operate unavoidably as if all similarly classified cases were in fact homogeneous and uniform. All Normalbäume in a given size range are the same; all soil in a defined soil class is statistically identical; all autoworkers (if we are classifying by industry) are alike; all Catholics (if we are classifying by religious faith) are alike. There is, as Theodore Porter notes in his study of mechanical objectivity, a "strong incentive to prefer precise and standardizable measures to highly accurate ones," since accuracy is meaningless if the identical procedure cannot reliably be performed elsewhere.[83]

To this point, I have been making a rather straightforward, even banal point about the simplification, abstraction, and standardization that are necessary for state officials' observations of the circumstances of some or all of the population. But I want to make a further claim, one analogous to that made for scientific forestry: the modern state, through its officials, attempts with varying success to create a terrain and a population with precisely those standardized characteristics that

will be easiest to monitor, count, assess, and manage. The utopian, immanent, and continually frustrated goal of the modern state is to reduce the chaotic, disorderly, constantly changing social reality beneath it to something more closely resembling the administrative grid of its observations. Much of the statecraft of the late eighteenth and nineteenth centuries was devoted to this project. "In the period of movement from tribute to tax, from indirect rule to direct rule, from subordination to assimilation," Tilly remarks, "states generally worked to homogenize their populations and break down their segmentation by imposing common languages, religions, currencies, and legal systems, as well as promoting the construction of connected systems of trade, transportation, and communication."[84]

As the scientific forester may dream of a perfectly legible forest planted with same-aged, single-species, uniform trees growing in straight lines in a rectangular flat space cleared of all underbrush and poachers,[85] so the exacting state official may aspire to a perfectly legible population with registered, unique names and addresses keyed to grid settlements; who pursue single, identifiable occupations; and all of whose transactions are documented according to the designated formula and in the official language. This caricature of society as a military parade ground is overdrawn, but the grain of truth that it embodies may help us understand the grandiose plans we will examine later.[86] The aspiration to such uniformity and order alerts us to the fact that modern statecraft is largely a project of internal colonization, often glossed, as it is in imperial rhetoric, as a "civilizing mission." The builders of the modern nation-state do not merely describe, observe, and map; they strive to shape a people and landscape that will fit their techniques of observation.[87]

This tendency is perhaps one shared by many large hierarchical organizations. As Donald Chisholm, in reviewing the literature on administrative coordination, concludes, "central coordinating schemes do work effectively under conditions where the task environment is known and unchanging, where it can be treated as a closed system."[88] The more static, standardized, and uniform a population or social space is, the more legible it is, and the more amenable it is to the techniques of state officials. I am suggesting that many state activities aim at transforming the population, space, and nature under their jurisdiction into the closed systems that offer no surprises and that can best be observed and controlled.

State officials can often make their categories stick and impose their simplifications, because the state, of all institutions, is best equipped to insist on treating people according to its schemata. Thus categories

that may have begun as the artificial inventions of cadastral surveyors, census takers, judges, or police officers can end by becoming categories that organize people's daily experience precisely because they are embedded in state-created institutions that structure that experience.[89] The economic plan, survey map, record of ownership, forest management plan, classification of ethnicity, passbook, arrest record, and map of political boundaries acquire their force from the fact that these synoptic data are the points of departure for reality as state officials apprehend and shape it. In dictatorial settings where there is no effective way to assert another reality, fictitious facts-on-paper can often be made eventually to prevail on the ground, because it is on behalf of such pieces of paper that police and army are deployed.

These paper records are the operative facts in a court of law, in an administrative dossier, and before most functionaries. In this sense, there are virtually no other facts for the state than those that are contained in documents standardized for that purpose. An error in such a document can have far more power—and for far longer—than can an unreported truth. If, for example, you want to defend your claim to real property, you are normally obliged to defend it with a document called a property deed, and to do so in the courts and tribunals created for that purpose. If you wish to have any standing in law, you must have a document that officials accept as evidence of citizenship, be that document a birth certificate, passport, or identity card. The categories used by state agents are not merely means to make their environment legible; they are an authoritative tune to which most of the population must dance.