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# Knowledge of the Territory

**The Argument**

Few spaces have been given such great importance as national space. It is often seen as the fulfillment of a predestination – simultaneously geographical, political, ethnic, and functional – granted affirmation by history. This being especially true for the French territory with its ancient history.

This paper takes a different approach as regards the establishment of knowledge concerning the national territory. Looking at two of the many ways of knowing the territory – proto-statistics and the map – it aims at showing that the acquisition of this knowledge is a discontinuous, partly cumulative process, with social, political, and cognitive rationales, which were heterogeneous and even contradictory for a long period of time.

We associate France with a certain territory, and rightly so. We think not only of a certain area defined by sovereign borders, but also of a shape and an expanse that maps have made familiar and even second nature to us. In the past things were different, and not only because the territory underwent significant modifications during the long process of its formation. From the middle of the ninth century to the eleventh century, the name Francia was used to denote several different geographical areas, varying in nature and importance, before it came to be used to designate the Capetian kingdom. And it was not until the reign of Philip Augustus that the concept of the kingdom's unity and territorial nature slowly emerged, to become entrenched during the thirteenth century. The term *regnum Franciae* then came into use, and *rex Francorum* was officially replaced for the first time by *rex Franciae* in the chancellery records in 1254. The evolution seems to have been complete by around 1300; by that time France had come to be associated with a specific area. It could henceforth be called to mind like a garden of perfection; it had become an intangible territory, a homeland in defense of which its inhabitants would soon learn to die (Beaune 1985).

With this major change came a gradual process of acquiring knowledge of and establishing control over the national domain. This process took about a century, for it was necessary to start virtually from scratch. The kingdom was still composed of a

complex entanglement of different estates and rights, which had to become somehow a unified territory under the control of the sovereign (Fawtier 1960). The conquest of borders played a determining role in this long process, and there is no doubt that it is the most conspicuous of the factors involved. However, we cannot ignore the persistent efforts of the public authorities to group together and lend homogeneity to the diverse areas that very gradually became known as France. These efforts spanned an extremely long time, from the thirteenth or fourteenth century until the nineteenth, if not longer. As Tocqueville pointed out in a well-known text, the Revolution in this respect continued the trend of the Ancien Régime rather than breaking with it. The efforts were extended in several directions. Some aimed at organizing, improving, and unifying the administration of the territory. Others were operations to gain more knowledge. These took various forms but all were aimed at ensuring that the state authorities would have some kind of real hold on the areas supposed to be under their control. Each operation, while yielding a specific type of information, permitted a certain representation of France. We shall now examine two different ways of acquiring knowledge: (1) the survey and (2) the map. Both remind us that knowledge of the territory is a production of the territory itself.

## 1. The Survey: From Inspection to Statistics

When traveling from one place to another, the sovereign generally learned very little; nor was learning the aim of his journeying. But did he have any other means of gaining concrete knowledge of his kingdom? Robert Fawtier asked this question about Philip the Fair and came to a negative conclusion. The kingdom still encompassed too complex an entanglement of estates and rights of differing nature for the area of sovereignty to constitute a clearly defined territory and for this territory to be actually known. At best, the king had a legal perception of his territory and above all a fiscal one: "All that counted was the revenue he could gain, and his finance officers were able to estimate this" (Fawtier 1960, 120). Although the argument is well supported, it is not entirely convincing. It supposes that men in the Middle Ages had the same life experiences as ours. We think in terms of territory; we have learned to weigh up our information and distribute it on a map. But the contemporaries of Philip the Fair thought in a completely different manner. It is nevertheless possible to examine the first attempts – from the thirteenth century to the fifteenth – to apprehend the area belonging to France. It was during these decisive years that the nation gradually came to be associated with a specific territory and that the explicit demand for knowledge of the country emerged. This evolution was not confined to France – which in fact lagged behind other countries, such as England – but it was particularly marked there. From the time when the existence of the nation became a common "conviction" (Guenée 1971; Beaune 1985), when the royal power established itself and found new sources of legitimacy, when the area of France finally began to expand, it became of utmost importance for the king to establish his knowledge over the territory.

### *The Medieval Inventories*

Philip Augustus acquired Artois in 1191 and more importantly Normandy, where he inherited English administrative practices, in 1204–5. Following these acquisitions, the first surveys (*inquisitiones*) of the resources of the new provinces were compiled. The purpose was clear: to evaluate as closely as possible what would be gained from the annexations. This preoccupation with fiscal and budgetary matters prevailed for many centuries; it was the major incentive for learning more about the kingdom. The surveys conducted became a genre. We know of about one hundred compiled during the reign of Philip Augustus alone, and they have been carefully preserved in the archives. They vary in importance, some dealing with the new acquisitions and others with older possessions in northern France. They also deal with a wide range of problems but show a clear predilection for the forests, which were to be protected but also exploited. Those conducting the surveys sometimes needed competence in a particular field. These often-repeated inspections are witness to the interest in gathering information about the kingdom and keeping the records up-to-date (Baldwin 1986, esp. 248–58).

The surveys reached their peak with Saint Louis. When he joined the Crusades in 1247, the king wanted to leave his kingdom in an orderly state and to right any wrongs he may have caused. Thus he decided to embark on a vast project of "moral stocktaking," this time on a national scale. This shows that, beyond the religious aspect, the king was well aware of the dangers involved in expanding the state; he wanted to discover any abuses and have them corrected. Moreover, this procedure was retroactive; it could go back, if necessary, to the time of Philip Augustus. Clergymen and laymen, often sent together, set out to gather the grievances of France. They brought back some ten thousand responses, which vary greatly in nature and importance, and are difficult to correlate. This impressive project was of threefold importance. First, it showed that the sovereign was in control of a good part of his kingdom, both through his regular administration (bailiffs and seneschals) and through the intermediary of special envoys. A specialized cadre came into existence, competent and able to use its competence, and trusted also by the subjects. Second, the surveys gave the king a close understanding of local situations in many cases, and served as a sort of administrative and political memory. Finally, the compilation of information was boldly combined with the management of disputes, thus foreshadowing the system that was to be established much later (it should be pointed out that at this time the procedure of appeal, which kept a check on the growing power of the local *officiers,*[1] was becoming more frequent). As noted by G. Sivéry, not only did "the royal power have to be accepted" by the country, but its efficiency improved at the same time (1983).

The 1247 "stocktaking" was unusual both in its aims and in its methods. When the king returned from the Holy Land the approach underwent some changes and became institutionalized, and the survey soon became one of the monarchy's regular

[1] An *officier* held a tenured position called an *office* (translator's note).

activities. The information compiled formed the basis for the administrative reform undertaken by Saint Louis in 1254. Those conducting the surveys were from the early fourteenth century called "surveyors-reformers"; they became permanent officers of the sovereign, although the length and the frequency of their missions remained irregular. Between 1270 and 1328, about one hundred surveys were conducted throughout the country. Yet as they became more common and more involved, their significance changed. Those conducting them were less and less empowered to right the wrongs of the state, and more and more invested with coercive powers. From Louis IX to Philip the Fair and onward, their task came to be that of defending the crown's rights and prerogatives, above all the fiscal ones. Their intervention, at times brutal, could verge on extortion and called for a counterinquiry; this was the case in Languedoc in 1297–98. Nevertheless, in spite of the deterioration in their reputation, the surveys they conducted throughout France enabled the king to oversee local administrations and his common subjects (Glénisson 1946).

The task of the surveyors was to gain knowledge about France. But what are the facts? The territory assigned to these officers varied considerably; it was sometimes no more than the area covered by a bailiff and sometimes a whole province; the means available for the surveys also varied greatly. Yet the general impression they convey is one of real and sometimes formidable efficiency. Thus under Philip the Fair the demarcation of the delicate border between the seneschalsies of Beaucaire and Carcassonne could be entrusted to Raimond de Poujoulat, and Philippe le Convers displayed remarkable expertise in the management of the royal forests (Favier 1978, 21–22). But the document that best demonstrates the control gained over the country in a matter of a few generations is "L'Etat des paroisses et des feux de 1328" (The state of parishes and households in 1328). This, the first document of its kind to have been passed down to us (Lot 1929), sums up the results of manifold local operations. It permits us to glimpse the detailed work behind some cases. As the monarchy embarked on an interminable war, the purpose of the demographic survey was to determine more precisely the resources of the kingdom. The ways and means of collecting information differed from those used in Saint Louis' days. The king no longer wanted to collect as much information as possible on as many subjects as possible. The state of 1328 did not want a profusion of disparate documents, as produced in 1247; it wanted simplified and standardized information: lists of parishes were drawn up, with the number of households in each written next to the name of each parish. The operation was carried out by royal *officiers* under the instructions of the Auditing Authority, the central body for the management of resources in the Capetian monarchy. The survey thus provides a good indication of the extent to which the royal administration was in control of its territory. The results, published and analyzed by F. Lot, show that with the exception of the large fiefs (Brittany, Guienne, Burgundy, Champagne, and Flanders) and the appanages that were not under the king's routine administration, the king could generally be satisfactorily, or at least plausibly, informed about his kingdom (ibid.). Locally, knowledge was gained on the level of areas governed by bailiffs and seneschals. On a national level,

knowledge could be gained by summing up this information. The mass of documents, reserved for the exclusive information and reference of the rulers, expanded more and more during the last two centuries of the Middle Ages. They eventually developed into voluminous archives, which probably soon became impossible to manage.

### *The Birth of Statistics*

At a very early stage, then, knowledge of the territory became inseparable from the exercise of sovereignty. This knowledge was a product of the development and the needs of a public administration that gradually expanded its network of activities. There was also greater centralization; Louis XI, the "universal spider," symbolizes this knowledge in the second half of the fifteenth century. "No man ever listened so attentively to people, nor inquired of as many things, nor wished to know as many people as he did" (Commynes). However, his carefully spun web remained incomplete and the means of the central administration insufficient, so that the itinerant king was forced to set out himself in order to satisfy his thirst for knowledge. As time went on, however, the procedure of acquiring knowledge became more anonymous – the tasks of observing and compiling data were taken over by permanent institutions that gradually became fixed in one place. This, however, in no way implies that the increase in either the quality or the quantity of information was proportional to the expansion in the kingdom's administrative equipment.

Thus through the Ancien Régime unfolds a long process from inspection to statistics. Far from bringing this unfinished secular process to a halt, the Revolution accelerated and redirected it (INSEE 1976, esp. papers by Hecht, Dupâquier and Vilquin, and J.-C. Perrot). The successive stages in this evolution differ from one another but also have a certain number of characteristics in common. Long before the word "statistics" came into use, they show how prominent a role the state played in the investigations, which became a regal prerogative at a very early stage. This was true for all European states, but in France it was more marked and longer lasting than anywhere else. Of course, the precocious and constant investment by the public authorities in these matters is explained by the fiscal aspect – the need to assess resources better and to establish a more efficient foundation for taxation. The authorities wanted to be in a position to evaluate the country's capacity, particularly in difficult times such as war or crisis. Initially the surveys were therefore essentially of a demographic nature, and they remained so for a long time. Well before people started to wonder and argue about population increases and decreases, during the last century of the Ancien Régime, the census had to satisfy the demands of the central authorities, from the medieval Auditing Authority to its early-modern equivalent, the *Contrôle général*. This had three consequences. First, the knowledge of France gained in this way was entirely dependent on the needs, means and efficiency of an administration that in fact remained underequipped until the eighteenth

century. Second, people identified the compilation of information with the exaction of taxes, and were thus suspicious of it. They often refused to cooperate or used tactics to avoid cooperating – which limited the significance of the surveys; such behavior was reinforced by an ancient, biblical reluctance to be counted – because a census seemed to be an infringement on divine prerogatives. Finally, since the king himself sought the knowledge, such knowledge had obvious political and military implications; it was essentially considered a "state secret." For a long time only a restricted group of decision makers was privy to the information. "What you send me must not become public knowledge," wrote the Duke of Beauvilliers to the administrators as late as 1697. It was in fact not until the Revolution that statistical information was declared "the collective property of the citizens, not the private property of the monarch"; it was then resolutely published.

In this centuries-long evolution, the thirteenth and fourteenth centuries had constituted a first important groundbreaking era. The affirmation of an absolute monarchy, backed up by a strong movement of administrative centralization, constituted another such groundbreaking era in the seventeenth and eighteenth centuries. With the state's growing needs requiring a more rigorous hold on the kingdom, the monarchy embarked on a much more intense series of surveys (Esmonin 1964). Some were simple censuses, similar to those probably carried out in the sixteenth century. Others were complicated exercises in statistics that produced an intricate grid of information over the entire territory of France. The first example was the survey initiated in 1630 by the superintendant D'Effiat. He instructed the royal commissioners in charge of tax collection in the provinces to count not only the parishes and the people living in them, but also the number of clergymen and *officiers,* the value of the *offices,* fiscal resources, market activity, and the state of the fiefs. This was repeated in 1634 and again by Colbert in 1664, when the minister felt the need to be better acquainted with the functioning of the royal administration and correct its drawbacks. He asked the administrators for a wide range of information on justice, finance, certain infrastructures, trade, military governments, and the ecclesiastical hierarchy. In addition, he felt the need for adequate geographic and administrative maps. All this is proof that the inventory of resources had become inseparable from the control of a unified area, favored by both absolutism and mercantilism.

In the closing years of the seventeenth century, the survey carried out for the information of the Duke of Burgundy (1697) was perhaps the most complete statistical undertaking. No survey had more symbolic significance than this one; for, after all, France had to be introduced to the Dauphin, a fourteen-year-old boy. In a famous text, Fénelon exhorted the Dauphin to learn about his future kingdom: "It is not enough to know about the past; you have to know about the present. Do you know how many people live in your nation? How many men, how many women, how many plowmen, how many craftsmen . . .? What would one say of a shepherd who does not know how many sheep are in his flock? It is no more difficult for a king to count his subjects, if only he wants to. . . . He has to know about the different

courts of law set up in each province, the rights of *charges*,[2] their abuses, etc. A king who does not know these things is but half a king; his ignorance prevents him from righting what is wrong and does him more harm than the corruption of those who govern under him" (Fénelon 1697?). Herein lies the explanation for both the contents of and the reasons behind this often laborious survey, which took three years to carry out. The reports written are of uneven value and the information gained often disappointing. Yet the pedagogical and political exercise was what really counted. "To know the present state of the kingdom" implied understanding a political and social entity, as well as the administrative and economic mechanisms within a certain area.

But what area? Let us make a distinction between the two different branches of statistics described by Jean-Claude Perrot, whose individual features were to become more and more pronounced during the last century of the Ancien Régime (Perrot 1977). The first, resembling English political arithmetic, did not necessarily relate to area; data were collected at various levels, but the main task was to record such data temporally and gauge developments. More than twenty years before *La Dîme Royale* (The royal tithe) was published, Vauban suggested a *Méthode générale et facile pour faire le dénombrement des peuples* (Simple and general method of taking a population census; 1686), which laid down the basis of a method that was indeed general and could be applied to a town, a district, or the whole of France. The first time it was put into practice was in the national census undertaken in 1694, in view of the introduction of a poll tax. The results could then be compared to later ones, so that patterns and tendencies could be discerned. This method of analysis was used in a wide range of surveys, all of which – from Colbert until the Revolution and after – had the same aim: to assess the size of the population, the yield of mines and factories, agricultural resources, trade, provisions, prices, or salaries (see Gille 1964, 46–100). They formed a significant part of the enormous amount of statistical material collected in the last century of the Ancien Régime by the administrators, who were ever anxious to justify their decisions through global evaluations, and by such demographers as Expilly, Moheau, or Des Pomelles, who sought the support of well-established facts for their ideas on the fate of the people.

An opposite approach is one in which space is the focal point of the analysis. This approach reflects a different tradition, one that flourished in the Germanic world and of which the grand survey of France in 1697 is an example. Rather than being a series of numbers, this descriptive approach is used to draw up a monographic picture that includes all the aspects of a local situation and attempts to reconstruct the system of relations that unites them. It is not abstract mathematics; it is rather an attempt to reflect nature as faithfully as possible. For an explanatory description can and must include all possible elements: natural factors (the soil, the climate, the vegetation, the waterways) and social factors (the number of people, their "temperament," activities, behavior, and traditions). The shifting interrelations of these various

[2] *Charges* – officers.

factors determine the uniqueness of each place. With this type of survey, the aim is not so much a sociological inventory as what was sometimes called in the eighteenth century a "natural history," based on analogy. The geographer Darluc explained this clearly during the last years of the Ancien Régime: "A natural history of a province that does not go beyond a simple report on fossils, climate, and production could at best satisfy one's curiosity. However, one that shows how these things fit together, and tries to draw conclusions for the human race and link them as far as possible to the public good . . . would be much more valuable" (1782, vii, cited in Broc 1975, 407). The lesson is clear; to understand social organizations and manage them as well as possible, one must learn to know all their determining factors and reconstitute both their origins and their workings.

Such an approach requires limited observation areas. It involves too many variables to cover a large area, and is not intended to do so; its very aim is to describe the properties of one specific place. So, where political arithmetics aims at an overall view of a territory, this method tends to juxtapose a large number of monographic surveys. Descriptive statistics are even more likely to produce this collage-like picture of an area since in the eighteenth century they were produced mainly by a special group of people. No longer were the state and its officers the prime promoters but rather private enterprise – a spontaneous network of travelers, geographers, economists, agronomists, doctors, low-ranking administrators, and notables of the area. All were men of the Enlightenment acting in the public interest. Most of them had, or claimed to have, a unique field experience, which they saw as creating a model for others. It was clear in their minds that each of their surveys was destined to be one piece in a vast national puzzle, yet they refused to extrapolate results that had no value other than being specific. The data they collected were collated and accumulated, but as part of a gigantic collage, which was their true (and, needless to say, asymptotic) aim.

It was no accident that the first steps toward an anthropology of France emerged from among this circle of self-recruited and self-proclaimed "specialists," leading, at the turn of the century, to a general anthropology. This group proved to be the central government's most willing associates at the local or regional level before, during, and after the Revolution. They were wildly and intensely fascinated by the uniqueness of the land they came to know so well.

Let us take as an example the survey initiated in 1776 by the founder of the Royal Medical Society, Vicq d'Azyr. It was based on the earliest regional medical topographies and it delegated the task of preparing a "topographic and medical map of France" to a team of correspondents scattered over the whole territory. In a few years an enormous volume of material was collected, unique but difficult to use because of its disparate nature. The survey, like the reports of provincial academics and the accounts of travelers and agronomists, placed greatest emphasis on area. Yet the France thus described was fragmented and therefore elusive.

## *To Describe or to Count?*

Whether to count or to describe was a debate that went on through the century of the Enlightenment and culminated in the decisive years of the Revolution and the Empire (Perrot 1977; Bourguet 1988). For then, knowledge of the territory and in fact the territory itself became political problems in which the nation's future was at stake. Very early on, France had to mobilize against both internal and external threats. Because of the economic crisis, drought, war, and also the proclaimed goal of making the world a happy place, the new regime had to be kept continually informed of conditions in France and had to be aware of its material and moral resources as well as the number of its citizens. The new regime had to be equipped to deal with short-term emergencies, but at the same time it had to delineate the nation's land area and prove its unity by means of the systematic collection of information. These two demands required two different survey strategies.

First of all, a whole series of partial censuses was taken, similar to the monarchy's thematic statistics, in an attempt to provide the authorities with information for immediate use in decision-making. The number of these surveys soared in times of crisis, to serve immediate needs. Thus within two years the committees of the Convention had a count of the number of draftable men and had conducted several surveys on the state of agricultural methods and produce, the quantity of supplies, and the types of activities carried out in various branches of industry. These centralized surveys accorded no more significance than did previous ones to the spatial distribution of the data collected. They were the expression of a "self-sufficient and vehement" Jacobinism (Perrot 1977), and their main concern was to mobilize the country's potential in the form of figures and tables and to place these at the disposal of the Republic. True, the Parisian politicians were sometimes forced to face what they had wanted to ignore: the diversity, the unevenness, in brief, the reality of the territory – when, for example, local administrators bombarded with memoranda and questions revealed through their grievances, and sometimes through silence, the disparities of actual France.

Emergencies, however, were not the only motivation for producing statistics. The Revolution gave birth to a nation. It set up a new order throughout the territory, which had to be known in all its parts so that these could become better linked and more involved in the political and social plan envisioned by the Revolution. It was no longer a matter of counting for decision-making; France had to be accurately described, beginning with its differences. Preparations for division of the country into departments in the autumn of 1789 afforded a largely spontaneous, comprehensive view. This huge reorganization of the administrative space, completed in a matter of months, exposed a whole range of representations of the territory. Certain "fixations," solidarities, or exclusions that earlier had existed only locally were now more widely felt. The Revolution aspired to unify the French people; thus their diversity became a problem that had to be examined in all its aspects. Once the diverse

situations had been initially assessed, progress, beneficial changes by the new regime, delays or opposition could be measured, an overall assessment could be made and the before and after compared. The communes and the departments received many questionnaires – not only on resources but on all aspects of social life and on the "public spirit" – the latter summing up the information gathered and being the real object of the surveys. At last came the month of Thermidor, and the terror came to an abrupt end. France regained stability and for a while enjoyed relief from both political and military pressures. The task of describing the country now included both evaluating where it had gotten to and determining a new starting point. The Directory's first minister of the interior, Bénézech, expressed this clearly in a memorandum to administrators of the departments at the end of 1795: "Only in this way and by comparing the results of the survey I have requested with the condition of France a few years hence, will you be able to appreciate the advantages and the benefits of a free government" (Bourguet 1988).

Thus began the "golden age of regional statistics." It lasted less than a decade, during which an all-out effort was made to discover and describe France. The surveys became systematic and even encyclopedic. As well as the usual chapters of statistical information, they included "anything in any way useful, interesting, or outstanding in the department." The surveys had the complementary advantages of being centrally initiated and locally implemented. In Paris, a succession of exceptional and innovative men headed the Ministry of the Interior – François de Neufchâteau, Lucien Bonaparte, and then Chaptal – all of whom believed in a "statistics of the Republic" project. Within Paris their orders were relayed by specialized offices, in the provinces by a stabilized and more efficient administration, and also by the members of large public bodies – engineers from the Ponts-et-Chaussées and the Mines, teachers from the Ecoles Centrales, and so on. In this way a national network was gradually formed. In the field, the surveys benefited from the interest and competence of that group of knowledgeable notables, industrious and politically minded, who – as mentioned earlier – emerged in the second half of the eighteenth century. It was also possible to utilize material that had accumulated over a long period. François de Neufchâteau saw in this joint effort the achievement of a new political and social order: "Only in a republic are the government's actions checked by the people under its administration, [only in a republic] is the public informed annually on the distribution of public funds, [only in a republic] are all citizens invited to discuss the interests of their country."

This made the venture a very special one. The aim was to cover the entire national territory, but surveys were carried out on a departmental basis. A uniform questionnaire was used, but it stressed what was truly unique about each locality. To quote the title of one of the surveys conducted at this time, a "general *and* specific statistical study of France" (Herbin et al. 1803) was carried out. The result was a series of descriptions and tables, constantly revised and adapted, that finally developed into the lengthy statistical reports of the prefects. These were written under Chaptal's guidance from 1801 to 1804 but were left incomplete. The picture of France that

emerged was contradictory. Each survey was like a block in the construction of a building, and together they were intended to form one unit. Annual supplements were planned, to ensure updated information and to make it possible to evaluate the progress toward national unity. However, the surveys remained disjointed. The prefects may have filled in standard questionnaires, and their concerns may have been common ones, but their departmental reports bear witness to their fascination with the diversity of France and with its "particularisms." The final result was something like an anthropology of locality. The two tendencies tugged in opposite directions: while the new system of departments was seen as suited to and even necessary for the task of observing and collecting data, the former provincial allegiances were reintroduced in the process. The pieces of the puzzle did not fit together properly. As Chaptal put it, the "topography" approach temporarily precluded an explanatory framework of natural and social realities and an overall understanding of the nation. An honest appraisal of the down-to-earth facts, the regional data, revealed that the national picture was as yet flawed and incomplete.

This project was to have no future. The authoritarian turn of the regime, sanctioned by the establishment of the Empire in 1804, was accompanied by an asserted desire for centralization and unification, which left little room for local initiative and experimentation. The project and its methods were reviewed. At first glance, the change in direction could be attributed to the proponents of political arithmetic taking revenge on the advocates of descriptive statistics. But the change was in fact much deeper. The territory as such had ceased to be at stake – or, more correctly, it was decided that it was no longer at stake, that it had to conform to the expectations of the political authorities. It was a voluntaristic choice: to use one yardstick and one model for gathering information, to prove the administrative and political unity of the nation by putting together a body of homogeneous data. The role of the central government, in the administrator Duquesnoy's words, was to "direct the thread that linked the different parts and channel them toward a common aim." Instead of contributing to a global project of knowing France, statistics became a mere instrument of information. There was no longer a place for spatial distributions and unique features; all that counted was the national balance sheet, which recapitulated that of the departments. The surveys became increasingly regular and grew in number, especially when the economic situation, in response to the Continental System and in combination with military problems, called for a renewed mobilization of resources. The surveys became extremely utilitarian and specialized, each focusing on one specific type of data. Statistics once again became a state privilege and, significantly, its results again became secret. Henceforth, local cooperation had no place in the Parisian bureaus (Woolf 1981).

### *France in Figures*

Napoleon's takeover marked the beginning of a process that culminated thirty years later in an overall statistical study of France. This project was inseparable from the

desire to organize the territory of the Great Nation, and there was neither time nor interest to devote to anything that might work against the drive for unity. The basic geographic unit – in this case the department – was no longer the object of analysis; it became a neutral framework. Nor was it the only one possible (Bachasson de Montalivet 1813). The only purpose of statistics on a departmental level, while this still existed in the first half of the nineteenth century, was to collect data that could be aggregated at the national level. This by no means meant that the territory had been completely unified, despite all the evidence of energetic centralization and integration. During the Restoration and the July Monarchy, questions about the structure and homogeneity of France that had ostensibly already been disposed of suddenly reappeared – but in a completely different form. The focus was no longer on unique local features but on pointing up the major contrasts between two sides of France (Chartier 1978). This new *statistique morale* approach systematized the intuitions of the physiocrats and political arithmeticians of the eighteenth century. It linked a global understanding of the territory with the marking of irreducible spatial contrasts. Baron Dupin, in 1826, was the first person to trace on a map "the distinct blackish line separating the north of France from the south" – a line that stretched from Saint- Malo to Geneva, separating "enlightened France" from the "southern darkness," and was based from the beginning on the vast difference in the levels of schooling. Dupin himself, A.-M. Guerry, Bigot de Morogues, and Villeneuve-Bargemont later supported this division with other indices, and A. d'Angeville attempted a systematic description of it in his *Essai sur la statistique de la population française* (1836) (Essay on the statistics of the French population) (d'Angeville [1836] 1969). To quote Chartier (1978), these authors "made an experimental field out of the French territory." Beyond what may have separated them, one common preoccupation can be distinguished in the work of these men: to contrast the voluntaristic and abstract territory of the administrators with the texture, the actual unevenness of France, as represented in behaviors, wealth, and misfortune.

When in the 1830s the project of a general statistics of France was finally decided on, it was seen as a radical innovation. In many respects, however, it was the realization, the outcome, of longstanding preoccupations, which were given a new form and new methods (Marietti 1947; Le Mée 1975; Le Bras 1986). The idea of centralizing the results of the various censuses had been raised several times during the eighteenth century, and in the last years of the Ancien Régime Necker had suggested that a "general research and information bureau" be created. This project was revived by the leaders of the Revolution, who were faced with the mass of accumulated information. However, it was not until the Directory, and the initiative of François de Neufchâteau in particular, that an attempt was made to combine the operations hitherto apportioned among the various ministries and among the various departments of the Ministry of the Interior. Finally, in 1800, the combined efforts of L. Bonaparte and Chaptal led to the creation of an autonomous statistics bureau, which led a stormy existence until Napoleon closed it down in 1812 and redistributed its tasks. The restored monarchy was hardly enthusiastic about a project reminiscent

of the revolutionary centralization with its inquisitorial potential. Yet in the endless attempts to unify statistical knowledge, this gap was rather an exception, only temporarily interrupting a secular process. The problem was not specific to France. In the opening decades of the nineteenth century, Prussia, Great Britain, Belgium, and most of the European countries were faced with the same problem and reacted in a similar fashion (Dupâquier and Dupâquier 1985). It was, in fact, the publications of the British Board of Trade that in 1833 encouraged Thiers to request the reestablishment of a central service to "coordinate and arrange statistical tables on territory, population, wealth, and all of France's services." In 1840 this service became the General Statistics Bureau of France.

This vast European-wide movement did not however obey a strictly institutional or state-oriented logic. It can be understood only in the context of the unusual statistical frenzy of the early nineteenth century. This frenzy was not so much the result of public or centralized initiatives as of the striking number of individual and local efforts in those years. Dupin, Guerry, Villermé, d'Angeville – as well as the men in charge of the *Annales d'hygiène publique et de médecine légale* (Annals of public hygiene and legal medicine; 1829) – were among those concerned with social utility and practical application. These men were connected with a few large institutions, and learned societies, and they did not wait for state encouragement before venturing into "moral" statistics. Private research was also behind the publication of the *Compte général de l'administration de la justice criminelle* (General review of the administration of criminal justice), which first appeared in 1827. The initiative of representatives of the state was also motivated by personal or sectional interests, rather than being part of an overall program – as for example in the case of the prefect of the Seine, Chabrol, who was responsible for four volumes of *Recherches statistiques sur la ville de Paris et le département de la Seine* (Statistical research on Paris and the department of the Seine; 1821–29). Everyone hoped that statistics would contribute to knowledge about society. "The statistician – the modern geometrician – has become, together with the doctor – the other face of prescriptive methodical science – the social expert capable of taking the measure of all things" (Perrot 1976, 125).[3] People then became convinced of the possibility of social physics, of which Quételet became the ambitious theoretician. In the individualist societies born of the Revolution, the statistician's "average man" became the basic unit for observation and, furthermore, for political management.

It was under these circumstances that a central statistics service was reconstructed, one that could both take advantage of the accumulated studies and get a system going on a national level. This was a novel creation, an institution that was to survive for over a century and outlive six regimes until the Institut National de la Statistique et des Etudes Economiques took over from it in 1946. From then on, economic and social observation became inseparable from the functioning of the modern state. The service also kept a check on the ambitions of the new discipline. According to an 1834

[3] See also, in the same volume, the contributions of J. Ozouf (on schooling) and of B. Lécuyer (on the *Annales d'Hygiène*).

memorandum describing the service to the prefects, the project consisted of "a collection of statistical data helpful in studying the country's affairs and capable of enlightening legislative discussions." Moreau de Jonnès, who was its first head, stated clearly that the General Statistics Census Survey of France was intended for "statesmen and businessmen whose lives are too busy to allow them to clarify raw calculations for themselves. So if statistics is to fulfill its purpose, every aspect of it must be made easily understandable."

Setting up the service was thus a vast project in which a complete but manageable inventory of France was to be drawn up. This was simultaneous with the huge operation of the land registry, conducted between 1828 and 1851. However, even if the first of the fourteen columns of the initial plan was devoted to the category "Territory," no special attention was given to its description, nor was it given special thought. The collected data continued to be presented by districts or, as gradually became more common, by departments. Yet these divisions remained purely formal, used because of their stability and uniformity so that coherent chronological sets of figures could be obtained. Local and regional observations were deprived of any importance per se. Any data collected at these levels were interesting only insofar as they could be aggregated at the national level. This global recapitulation, which was the main goal of the General Statistics Census Survey of France, took for granted that a uniform area existed and so imposed a "deterritorialization of the description of the social world" (Desrosières 1986).[4] Changes in the questionnaires reflect this tendency: as the nineteenth century advances, the questionnaires become richer and more complex. But the categories used for analysis abandon spatial diversity "in favor of matters connected with codes and statutes of national importance" (ibid.). This can be seen, for example, in the unified socioprofessional lists established in the French population censuses in the second half of the nineteenth century.

But the project of unifying French statistics cannot be seen merely in an epistemological light. The General Statistical Census Survey of France went hand in hand with a political affirmation that considered the unity and homogeneity of the national territory already established. Scientific surveys, with their categories and their organized description, were designed to show that a secular process was coming to an end. "Political orthopedics," to use Lequin's well-chosen characterization of the statistical enterprise (1984, 102–3), did not consist merely of a growing number of economic, social, or "moral" facts. It also helped to shape that collective entity, the nation, and to produce a continuous and abstract area in which all points are, by definition, equal. A century before national accounts were being kept, statistics lent credibility to the idea that a global view of France was not only possible but the only truly pertinent view. Here lay, perhaps, the real success of the General Statistics Bureau, whose premature dulling during the nineteenth century has often been pointed out. During the years when many people, from d'Angeville to Michel Chevalier and from Le Play to Charles Brun, were examining the disparities of the area, the Bureau

[4] I thank the author for communicating this unpublished document.

succeeded in convincing most Frenchmen that the national territory was a fait accompli, and supported this conviction with figures. It was not until immediately after World War II that this credo was seriously questioned and that a more realistic territorial policy, one that for a long time had been considered marginal, once again rose to prominence in the state's priorities.

## 2. The Map of France

It may seem paradoxical that the map comes second in this paper. For what better symbolizes the rulers' hold on the territory, what better expresses control over it than a map? For us, France is a shape we have learned to recognize, discuss, and stylize (Weber 1986). It is from the map on the classroom wall that children have learned, over the decades, to read the contours of their country, have learned of the unbearable loss of Alsace and Lorraine after the defeat of 1870, and of the mother country's imperial conquests across the planisphere. Reduced to a hexagon, the national shape became both evident and necessary. It epitomized a long history whose vicissitudes and slow development could now be forgotten. It imposed a line manifesting an accomplishment, both familiar and perfect.

However, the map was a relatively late development in the geographical knowledge of France. Until the end of the Middle Ages, it seems to have played only a minor role, difficult to document, even though the kingdom had long been perceived as a territory, and other techniques – as we have seen – indicated a wish to capture it. The late development of the pictorial representation was problematic; or rather, it reminds us that systems of perception have a history of their own. The fact that people in the Middle Ages did not use maps does not mean that they had no "concept of space." They merely expressed it, as shown very clearly by Guenée, in both cognitive and rhetorical ways that have become foreign to us (1980, 166–78). Rhetoric ways included geographical explanations that were an extremely codified literary form inspired by ancient models. It had to present, one after another, the country, its people, and its noteworthy *mirabilia*; it was description mixed with praise. Rich in classic references, it was more a literary tradition than an "objective" observation of the territory; and, significantly enough, it combined both old and recent data. Yet most of these texts must be associated with the project to gain knowledge about France, even if this project's methods differ from those we have grown accustomed to over five centuries.

We have already noted the importance of the lists of names in the surveys that began in the fourteenth century. These became a constant aid to whomever was seeking to depict an area. A monk from Marmoutier thus wrote a relatively orderly description of Touraine in the early twelfth century, describing the borders, fortresses, and rivers and relating them to the four cardinal points. This work displays methodical observation; the area is depicted by a series of points and with the help of names (Tricart 1978). Primat, the main author of the *Grandes Chroniques de France*

(Great Chronicles of France; 1274), described Gaul in the same way, "for naming the towns renders a description more understandable." The number of these lists increased in the last centuries of the Middle Ages. The success of this form of description at that time was due to the growing demands of the administration, above all the Treasury, and to the public and private use made of the territory. The lists, provided they were regularly updated (which was not always the case), allowed the territory to be kept organized, summarized, and memorized. They were detailed at the local level and simplified at the national level. They afforded comparisons between different parts of France more readily perhaps than maps, which were difficult to draw because of the overlapping of political and administrative districts. Moreover, the itineraries offered comparable information to travelers, merchants, and pilgrims using the roads. They described routes by giving a series of names and practical information, and organized the stages efficiently enough so that the need for a graphic representation was not felt long after maps came into existence. This sort of knowledge may seem very abstract and detached – and at the same time quite empirical – but at a fairly early stage probably made it possible to estimate the dimensions of the kingdom. This was shown by Gilles Le Bouvier, Charles VII's herald, in the first half of the fifteenth century, when he stated that "the length of this kingdom is a twenty-two-day journey, from l'Escluse in Flanders to Saint Jehan de Pié de Port at the border of the kingdom of Navarre, and the width is a sixteen-day journey, from Saint Mahieu . . . in Brittany to Lyon on the Rhône." This was a plausible estimation, probably based on travel experiences; its relative accuracy contradicts, for example, the fantastic accounts based on the contemporary evaluations of the population of the kingdom (Contamine 1973).

The fact that names and lists remained of first importance for so long does not mean that maps were never used in medieval representations of territory. These documents, however – most of which have disappeared – did not necessarily attempt to transcribe measures or give a realistic image of a territory. Many of them were maps of the world, based mainly on information gathered from books, not on empirical knowledge of the territory. There were probably a number of regional maps, which have not been preserved, without which it would hardly have been possible to make the first descriptions of the kingdom. We do not know whether they were different or any more accurate than the world maps, although we can assume so, since their numbers apparently increased in the fifteenth century in response to the needs of the royal administration. When Charles VII inherited some property in Dauphiné, a notary was sent in 1423 to draw up an inventory, and a painter was sent to make a map. At the close of the century, Béraud Stuart recommended, in his book *Instructions touchant le faict de la guerre* (Instructions on war), that the sovereign's conquests be "painted" (see Guenée 1980, 172; Contamine 1973, 424, n. 51; and esp. de Dainville 1970). Thus the graphic picture gradually came to be an accepted method of apprehending territory. Maps did not invent the sense of space, but they gave it a perceptive, conceptual, and technical form, which eventually became inseparable from "spatiality" itself.

At the end of the Middle Ages, several largely autonomous traditions of cartography were used that were somewhat problematic to compare and to reconcile (Broc 1980, 1983). The development of maritime navigation since the thirteenth century was the source of one type of document, the *portolano*. This consisted of a booklet and sometimes a map, which plotted the route between two points for sailors to follow. These nautical maps were born of practical experience and basically delineated coastlines, pointing out irregularities, landmarks, potential dangers, and shelters. The *portolano,* which usually neglected inland areas, gave a coastal profile and listed seamarks and sites; it did not depict the territory. *Portolanos* originated in Italy, and although they slowly spread throughout Europe, they remained rare in France. They soon sketched (and fixed) a rough outline of the country, but were probably known only in professional circles for a long time.

Ptolemy's *Geography,* also rediscovered in Italy at the beginning of the fifteenth century, soon spread to the rest of the continent. This was a second, even more important type of document, which gave various kinds of information. First of all there were charts of latitude and longitude, which were corrected many times during the last century of the Middle Ages. Then there were maps, based on these astronomical coordinates, which were also revised and "modernized" from the end of the fifteenth century. Among them was a map of Gaul; it may have been deformed and full of errors, but it finally emphasized inland areas. This map was endorsed by scholarly tradition; but is it true that it was never used in practice, as Gallois (1981) thought? This is difficult for us to judge, with our anachronistic criteria. Yet there is no doubt that in spite of its failings, Ptolemaic cartography offered an example of a nationwide spatial coverage to a broad public. Along with distortions and errors, which were slow to disappear, it did leave behind a contribution of graphic practices. Finally, all this complicated knowledge has to be compared with data acquired through experience – for example, with the distances recorded in such practical documents as itineraries.

The map of France slowly emerged from these heterogeneous traditions at the end of the fifteenth century and beginning of the sixteenth, but the process was wavering and full of inconsistencies. In 1511 Bernardo Silvano produces one of the first and most satisfactory descriptions of *Gallia* (Gaul), apparently based on a comparison of all available sources. He corrects quite significantly the Atlantic coastline as related both to the *portolano* maps and the Ptolemaic tradition. Yet despite this resolute and successful endeavor, he goes on mentioning a list of irregularities along the corrected coasts of Aquitaine refuted by his own graphic description but mentioned in Ptolemy's text (Broc 1983, 529).

The mathematician Oronce Finé has often been credited with the first modern map of France, the *Charte gallicane* (map of Gaul). The first edition, which was lost, was probably published around 1525 (Gallois 1981; Broc 1983). Based on a grid of approximate coordinates, it does not really contribute anything new but repeats previous drawings of maps, often with the same errors. The Atlantic coastline remains arbitrary (in any case inferior in accuracy to the line on Silvano's map) and

the orientation of the Pyrenees is not clear. The changes are seen rather in the way the map is filled in; new details are abundant but vary in quantity from province to province. Many details are provided on the Ile-de-France, Guienne, the Rhône valley and the Dauphiné, and much less on West Brittany, Normandy, and Poitou. Finé probably relied on regional cartographic material and documentation from books that did not deal evenly with the entire territory. The *Charte gallicane* had various sources, and it was much less an original creation than an attempt to synthesize data that were difficult to reconcile. Finé himself described it as a provisional attempt and said that he wanted "to prepare the way for anyone to add to or correct it."

In fact, Oronce Finé's originality probably lies elsewhere than in his technical work. He was far from being the first man to draw the map of Gaul, but he may have been the first to provide a representation of France. His map, presented in a scroll in French, juxtaposes Latin and common toponymy. It uses the place names as listed in Caesar's *Commentaries* and includes "Celtique," "Belgique," "Aquitaine," and "Narbonnaise." It also goes beyond the Alps, which roughly speaking formed the border of the kingdom, representing Cisalpine up to the Arno River and "the river called Rubicon." However, the desire to adopt a literary tradition revived by humanism was probably not the only motive for these classical reminiscences, or even the main one; they were intended to inscribe (and lend historical legitimacy to) the claims to northern Italy that the French kings had made for fifty years. Finé was a royal assistant at the College of France, the prestigious creation of the monarchy in the field of scholarship. He claimed that his map had been made "at the request of some personalities." It was certainly influenced by political concerns, which from that time on assigned to cartography a decisive role. The *Charte gallicane* was very large (0.95 m x 0.68 m) and was intended for display – to show the present territory of the kingdom and France's territorial aspirations. However, it should be noted that in France the change in mental habits took place at a very late stage, compared for example with England and Scotland (where Mathieu Paris made his maps in the thirteenth century) or with Italy. This significant delay is difficult to explain but was probably due to the fact that France, as a continental power, was somewhat remote from the great medieval cartographic ventures. It can also be explained by the actual dimensions of the kingdom (huge by European standards), by its political and administrative complexity, and above all by the fact that France was continental. It was not until the sovereign took permanent control of his territory that these obstacles could be overcome.[5]

### *In the Service of Power*

Cartography became inseparable from the affirmation of monarchic power; delineation of the territory was first and foremost the king's business. From Francis I to

[5] On the huge size of the French territory between the fifteenth and eighteenth centuries, see the remarks of Braudel (1979, 269 ff.).

Charles IX, there were signs of a growing demand for information on the kingdom, in which maps began to play an accepted role (Boutier, Dewerpe, and Nordman 1984, 41–57). Louis le Boulenger published *Project et calcul fait par le commandement du Roy, de la grandeur, longueur et largeur de son Royaume, pays, terres et seigneuries* (Project and calculation commanded by the king on the size, length and breadth of his kingdom, districts, estates and domains) in 1565, although it may have been researched well before. The results vary in accuracy, but these measures of France were indeed by order of the king. The following year Nicolas de Nicolay, a traveler, diplomat, engineer, and the "king's geographer" received, as he put it, "the order and the mission to draw maps and make geographical descriptions of every province of this kingdom, summarize them, and organize them into volumes." Each survey was to be completed by "a description in the form of both a general and a specific history" – that is, it was to be a map with all available facts about topography, boundaries, administrative districts, and the king's rights written around it. In the end, this grand project of "visitation" resulted in only three volumes: the *Descriptions générales* of Berry (1567), Bourbonnais (1569), and Lyonnais and Beaujolais (1573). Even though it was never completed, the project shows that in this troubled period – which was also the time of Charles IX's and Catherine de Médicis' two years and a half tour of France – the map had become the preferred means of transmitting political intentions. Nicolay expressed this clearly: "I am only too aware, Your Majesty, of the great benefits and utility, both for the prince and for the subjects of the meticulous research and application which His Majesty shows in visiting different places, of which good fortune depends (after God) on His provident administration alone. Thus at an opportune time, God [has] . . . given You the means to recollect and accurately describe, even without this, the lie of the land and the state of France, of which You have long been destined to be the legitimate and sovereign head, moderator and King. Your Majesty has deigned to assign me to the geography, both general and specific, of Your Kingdom." The king could now sit in his chamber and "without troubling himself greatly, see with his eye and touch with his finger" the expanse and diversity of his territory – without having to travel at all (Hervé 1956).

The map had both symbolic and practical value and became a form of power. A collection was built up, and the privilege of consulting it was reserved for the sovereign and his ministers. Henry III and Sully, each in his turn, came to consult the documents assembled by Nicolay and then by his son-in-law and successor, A. de Laval, before the organization of the royal collections, and then, after 1668, those in the War Depot. Not all sovereigns and ministers shared Henry IV's enthusiasm for the maps, which he is said to have "loved with a passion." On the other hand, no one could afford to ignore them any longer. Moreover, maps of the kingdom became an expression of political aspirations, even propaganda tools. The same Henry IV was presented, in 1594, with a work called *Théâtre Françoys* (The French stage) by Bouguereau, a printer from Touraine. It was an atlas containing a number of existing maps and some new ones, thus not fully original. It was, however, important for other reasons: at a decisive time in history, at the close of a period of political and religious

strife, it announced the full restoration of sovereign power and expressed the allegiance of France and the provinces to the new king (de Dainville 1969). The geographer was an employee of the crown, and his task was to exalt it.

Maps were not of purely symbolic value. Bouguereau suggested several possible practical uses, which could work toward a stronger hold on the kingdom. Maps were "for the pleasure of seeing special and noteworthy things in the provinces, for the use of soldiers, for the housing department, for the enactment of orders, for tax collectors and treasurers, who could subjugate their estimations for the collector's office on parishes, work days and control of money in the provinces. Maps were also of use to all subjects, who could use them in internal trade" (de Dainville 1969). By the close of the sixteenth century graphic descriptions of territory had not yet replaced the older techniques in administrative, fiscal, and economic management. Lists and guides still prevailed – the many republications of Charles Estienne's *Guide des chemins de France* (1552) are evidence that this form had achieved lasting popularity – but maps began to provide a new visual support for the monarchy's ambitions.

In one field in particular, maps were used very early and with good reason – the field of war (Siestrunck 1980). When the wars against Italy broke out, Charles VIII had maps of the alpine passes made, and from Francois I to Henry II France began to request the collaboration of Italian experts. Yet Sully, the overseer of fortifications, grand master of artillery, and officer in charge of public roads, was the man responsible for a significant change and a systematic project of military cartography. This project was carried out by the king's engineers, whose number and importance increased steadily from this point on.[6] Their tasks varied considerably. They often worked on just one town, making a map of it with its fortifications, or on one sector, listing logistical and tactical possibilities. Sometimes, however, they were required to explore vast border zones – for example, when they were given the mission of determining the king's rights following the treaty of Vervins (1598). Thus Jean de Beins in Dauphiné, Claude de Chastillon in Champagne and Jean Martelier in Picardy almost completely covered the northern and eastern borders; and Sully, beginning in 1604, had the coastlines of Normandy and Brittany plotted. This was the beginning of an enormous project continued by Richelieu and the ministers of the Sun King, and then by the last Bourbons in accordance with the vicissitudes of war. Christophe Tassin's atlas, *Les cartes générales de toutes les provinces de France* (1634), was one of the fruits of this project. It contained a series of maps of the coasts and borders of the kingdom, and spread knowledge of the work done by the military engineers. Cartography was an asset in waging wars, and it remained so right down to the big ordnance maps of the nineteenth century. It also provided another kind of fuel to prolong the state of war, because maps showed not only military information but the extent of the kingdom's power. Territorial acquisitions were also depicted – another form of propaganda. The reign of Louis XIV saw the heyday of this reasoned mixture of styles. Pierre Duval's atlas *Acquisitions de la France par la paix*, published

[6] They were four in 1597, six in 1611, and about fifty in the 1630s (Buisseret 1965).

in 1660 and updated in 1669 and again in 1679, made the king's territorial annexations widely known. At the same time, Sébastien de Beaulieu represented the arena of war, battle after battle, in maps. His data were published after his death in *Glorieuses conquêtes de Louis-le-Grand* (1698), which served the same purposes as the first relief maps, published around the same time. They served a pedagogical purpose by enabling those who did not participate directly in the wars, primarily the king's court, to follow visually the major events of the campaigns. They also served a political purpose, because the king's glory was the true object of these bellicose descriptions. But it would be useless to distinguish between the intense and massive production of useful, objective field knowledge and triumphal ideology. Nor is it appropriate to distinguish between military and civil cartography. Knowledge and glory had become two sides of the same coin, namely the affirmation of the monarchy, which was not afraid to mobilize world order and command it to its service. Louis XIV meant just this when he "ordered the Academy to make a map of France; it seemed appropriate that France's true position on the globe should be more exactly known in an age when it was more famous than ever, due to the war it had waged against all of Europe and the peace it had just forced upon it."[7]

The link between the map and royal authority, which capitalized on the map's virtues, was both early and strong. During the Ancient Régime there appeared, at the sovereign's request and often in his immediate surroundings, a whole group of people in charge of surveying and describing the territory: engineers, whose numbers and functions constantly multiplied, and royal geographers, whose title, fairly widely distributed, significantly echoed that of the royal historiographers. A knowledge of maps was henceforth included in the education of princes and men of rank. Thus we find that Nicolas Sanson transmitted his knowledge to Richelieu, Louis XIII, and the Condés, before Nicolas de Fer became "the geographer of the royal children" (Pastoureau 1980). Cartography was a state affair, as it still is today. It was, therefore, often enshrouded in secrecy, as were the first statistical projects, carried out at the same time. This, however, does not necessarily mean that Weber (1986) is correct in his conclusion that maps over a long period were inaccessible to those not directly involved in governing the kingdom. What are the facts?

## *A Partiality for Maps*

Scientific material was popularized from as early as the seventeenth century, as shown by Mireille Pastoureau (1980). This was primarily due to a partiality for maps, which became fashionable in the whole of European high society – as can be seen especially in Vermeer's paintings. The popularization of this knowledge was also boosted by the development of a new kind of publication, the atlas, which became more and more accepted on a national level. Maurice Bouguereau's above-mentioned *Théâtre Françoys* published at the close of the sixteenth century is a first

[7] From: *Histoire de l'Académie Royale des Sciences,* vol. 1, 192. Cited in de Dainville 1940, 479.

example. It was continued and complemented by Le Clerc's *Théâtre géographique du Royaume de France*. This work covered much more territory and appeared in no less than seven editions between 1619 and 1632. In 1632 Melchior Tavernier published, under the same title, a collection of sixty-two maps, which was republished in 1634 and in 1637. These were only the first of a long series, among them Christophe Tassin's atlas and, most prominent, those by Nicolas Sanson and later also Guillaume Sanson. Then came the publishers of Louis XIV's reign, Alexis-Hubert Jaillot, Nicolas de Fer, and Jean-Baptiste Nolin. They established a wider circulation for the atlas, which was maintained into the eighteenth century. The role of the publisher was crucial, since he anticipated both the king's favor and public demand. These atlases contained more or less recent maps, together with the latest ones ordered from experts such as the Sansons. The various publishers had different ambitions and different ways of achieving them.

Some of these atlases were the result of huge investments, and the large volumes were sold at high prices. Others, such as the little duodecimo editions, complied with the expectations of an average public. These were actually paperbacks made by Pierre Duval for soldiers, students, and anyone else seeking information on France and the world. Moreover, the maps they included were often sold individually by bookshops and those dealing in prints. All these reproduced old, often outdated, maps, and we know little about their prices and market in the seventeenth and eighteenth centuries. However, the increasing number of rival publishers and their publications, as well as foreign imitations, suggests, at the least, that there was a corresponding increase in demand.

This demand can be partially located – for example in schools, where maps were increasingly used. De Dainville showed how geography instruction, traditionally associated with commentaries on old and sacred texts, was gradually broadened over the seventeenth century so as to "further explore the modern world." Maps thus appeared in schools as one of the elements of a decent education. Father Fabri wrote as early as 1669: "I have seen children of good birth, who were given a map of Italy, Germany, France, or Spain and could immediately indicate the major divisions using their ruler as a pointer. They traced the borders with the end of it, then pointed out, region by region, main towns and fortresses, rivers, mountains, lakes, and mines, using the correct placenames" (quoted in de Dainville 1940, 205; 1978).

It is significant that at the same time France was given a growing, sometimes preeminent, place in the manuals. The broadened elite of the kingdom, studying in colleges, also learned to know their country – the real country and the one of their dreams – from the "natural" borders of ancient Gaul to the king's latest conquests. A multitude of maps were drawn for soldiers, and Bougard's *Le petit flambeau de la mer* (The little torch of the sea; 1684) was for sailors. It contained maps of the Atlantic coastline of Europe and the ports along it. The work of Nicolas Sanson (1600–1667) showed the versatility of maps perhaps better than anything else, as he knew how to supply "the public with products which corresponded exactly to their tastes" (Pastoureau 1980). Very early on he chose to be a private geographer and provided maps for

both publishers and cultured buyers. He made many different sorts: historical maps, administrative maps, maps of the world, maps of Europe, maps of France, maps of its provinces. His "polyvalent" maps were intended for a variegated public, who could always find what they wanted. They provided general information as well as specific information conveniently highlighted by simple graphic means. The specific information was needed for specialized use – especially the kingdom's administrative and religious divisions – and was supplemented with a summing up of the information. Between its contribution to general culture and its practical uses, the atlas shows us that maps, over an extended period, were used extremely widely. Once he had become famous, Sanson also decided to devote to France the greater part of the work done during his last years (Pastoureau 1981).

### *The Map Is Standardized*

The atlases varied in quality but gave an approximate and fragmented picture of the kingdom. Let us take another look at Bouguereau's *Théâtre Françoys*. When we open it we find four more-or-less recent maps of France, of different origins. We find, moreover, fourteen "detailed maps of the provinces," three of which are original while all the others are borrowed from Flemish or French cartographers. The work as a whole covers the French territory only very partially. From one map to another the amount of detail and, more seriously, the scale vary considerably. Bouguereau's successors filled in the blanks little by little, but it remained a basically heterogeneous composition of which pieces still did not fit together properly. Knowledge of the territory continued to be gained by means of military or civil regional cartography. However, the very conditions in which this was done often prevented for a long time the results being incorporated in the general map of France.

A systematic cartographic study of the kingdom, autonomous and coordinated, was undertaken by Colbert. This project was politically and scientifically institutionalized – politically, because maps were more than ever a state affair; scientifically, because in 1668 the minister entrusted to the Academy of Sciences, which he had just founded and of which he was the patron, the conception and organization of the project. In fact the political and scientific aspects were not strictly distinct, for both the government of the kingdom and the common weal needed more than a global perception of the territory – they wanted precise measurements: "Just as a sovereign needs a thorough knowledge of the country under his domination, so it is useful for his subjects to know the exact location of any place to which their dealings could lead them." As well as being extremely institutionalized, the venture was centralized, unlike all previous ones. It used a method developed by a Dutchman, Snellius, at the beginning of the seventeenth century: geodesic triangulation using trigonometric calculations from a measured base. For this reason, the Paris Observatory played a central role in the project, which was under the direction of Jean-Dominique Cassini, the first of a long and renowned family line. Despite the fact that

the project was ensured a permanent team of workers and collaborators, as well as public financing, it proved too ambitious for its age and thus stretched out over a very long time. Initial headway was made with some preliminary work; in 1679 the coastlines began to be plotted, and in a few years the map of France had acquired its final silhouette, which can be found in the *Neptune Françoys* (1693). Measuring the meridian line of Paris, however, took much longer; work began in 1670 and was completed – from Dunkerque to Perpignan – in 1718 by the second Cassini. Now, theoretically, everything was ready for the triangulation of the whole of France. But in spite of the decisive impulsion of Orry, the *contrôleur général* (Minister of Economics and Finance), this was completed only in 1744 – three-quarters of a century after Colbert had launched the project. There was now a network of three thousand points with precise coordinates covering the entire French territory.

It should be pointed out that at this stage the monarchy's interest in the Cassini project was entirely practical. In 1730 the scientific battle was raging. Maupertuis, who followed Newton's principles, communicated to the French Academy and to the Royal Society in Britain some of his conclusions, which cast doubt on the assumptions of Picard and his successors on the shape of the earth and its measure. The rulers, however, remained largely indifferent to the ensuing debate on the shape of the earth. They wanted to play a safe hand. The Cassinis probably continued to inspire confidence because they were seen first and foremost as the efficient contractors of a project already well under way.

The "geometric description" remained to be transcribed into a map. The first, assembled from eighteen separate sheets, was completed by the Cassinis in 1744. It was good enough for Louis XV to request another on a larger scale (1/86,400), better adapted to the needs of war. In 1750 work was thus commenced on the Cassinis' huge undertaking, a 180-sheet map (Vayssière 1980; Konvitz 1983, 1987). The going was long and difficult, and the map was still incomplete at the end of the Ancien Régime. This slowness of progress is explained not only by the map's dimensions, but also by the uncertainty of its status. Although César-François Cassini de Thury (or Cassini III) could depend on royal initiative as well as on a generous subsidy from the office of the *contrôleur général,* he also had to resort to private resources. He founded a joint-stock company, which benefited from both the enthusiasm of the court and the more dependable interest of the scientific world; it was thus dependent on their good fortune. Even if the monarchy desired the map, it was not willing to cover all expenses. It was only in 1793 that the Convention, hard pressed by military obligations, decided to "nationalize" the cartographic project, at the Cassinis' expense. The project had also to contend with the reticence of provincial institutions, which should have supported it and associated themselves with it. Such was far from being the case. Some were not satisfied with mere sulking, and initiated competitive projects: Burgundy and Languedoc ordered private maps, while the administrator of Belleyme commissioned a map of Guienne. Similar things happened in Provence, Artois, and Brittany.

These problems make it clear that although a national map may have been a technical possibility before the Revolution, it was not entirely accepted in principle. The resistance of certain provinces is of course one indication of this fact and shows that even at this late stage they were resisting what they perceived to be an expression of absolutist centralization. Their opposition was not merely ideological; the material proposed by Cassini did not live up to their practical expectations. Also, the limited support given by the state was perhaps not entirely due to the financial crisis that beset the last years of the Ancien Régime; for even though the ambitions of both science and politics were well served by cartography, the real usefulness of its results was very early questioned.

The faults of Cassini's map were soon recognized. It was geometrically but not topographically accurate. The engineers, limited by necessity and guided by their technical training, but also with a certain amount of pride, left local bodies to give "expression to the land." Thus the filling in of the map was erratic and often inadequate. The relief was too approximate for the map to be easily used for military purposes. Roads were very deficiently depicted, and serious problems of continuity arose; the depiction of forests was haphazard. In fact, those in charge of the map simply neglected the topography of France, since it was "subject to too many variations"; they wanted a general and durable framework. During the Revolution and the Empire, the information provided on the map was complemented and perfected; but finally, in 1808, a completely new project was decided upon. This was the Ordnance Map project, based on a scale of 1/80,000. Although the work was effectively started in 1818, the surveys were completed only in 1866, and the map was published in 1880.

The problem arose, too, as to what information it is realistically possible to indicate at the national level – a dilemma highlighted by Bernard Lepetit in his study of the French road network between the eighteenth and nineteenth centuries (Lepetit 1984; Lepetit forthcoming[8]; Arbellot 1980). There was, in fact, a tradition of the postal route maps that dated back to the prototypes of Tavernier and Sanson (1632) and the Jaillots (1689). The maps were gradually improved but nevertheless gave a very partial view of the communications network. The roads policy introduced by Orry in 1738 was executed by the engineers of the Ponts-et-Chaussées and was behind the numerous maps of Trudaine and Perronet. These, however, were local maps based on a "cellular" conception of space; they juxtaposed many small sections of territory defined by the rival claims of towns that "could hardly conceive of any complementing between one another." A roads *network* remained impossible to depict on a map – not because of a lack of knowledge but because practices and descriptions in general were an obstacle. The first fairly complete road map was that of V. Dubrena in 1814, but it was still "flat" and undifferentiated. It used an existing form and did not attempt anything innovative. The complex administrative

[8] I thank the author for his permission to use this unpublished manuscript.

structures of the Ancien Régime were not the only reason; it still was extremely difficult to think through the organization and the differences of the French territory as a whole.

This problem brings us back to that of levels. Significantly enough, the national maps in existence described institutional equipment and administrative divisions, and France was shown as being homogeneous and continuous. It is hardly surprising that in 1790 Capitaine began to use Cassini's map (reduced to a quarter of its size) to represent the recent division of the kingdom into departments, arrondissements, and cantons. Dumez did the same in the *Atlas National de France,* which was published in separate sheets according to departments. However, as we have seen, restricted areas seemed for a long time to be more suitable for information of a complex, diversified, or changing nature – such as economic, demographic, or cultural facts. Beyond a real sense of distrust, this may explain the reaction of the provinces to Cassini's map, which did not reflect the interests and preoccupations of the local elites.

It is thus possible to understand the relative delay in the appearance of thematic maps on the national level. There were only sporadic examples during the second half of the eighteenth century, even though the monarchy's statistics had long been able to provide the necessary information. An anonymous and undated document shows, rather poorly, the resources of "commercial France." Another handwritten one shows the price of wheat on the major markets in February 1768. A slightly later and more ambitious map, once again anonymous, handwritten and moreover incomplete, illustrates, with the help of many different symbols, some economic aspects of France. (It also includes some administrative information and a few remarks on "noteworthy places," but no roads.) This map did not amount to much, treating of only one aspect of information, but it was innovative in its conception. National maps appeared mainly after 1800. The *Atlas* prepared for Napoleon by the Duke of Feltre in 1812 gave information on the population, the economy, finance, religion, museums, and military equipment; but it was presented essentially from the institutional and administrative point of view (Konvitz 1983, chap. 6; Foncin 1965, 1987; de Dainville and Tulard 1973). The attempts of Coquebert du Monbret, head of the Bureau de statistiques du Ministère de l'Intérieur, were no doubt of greater significance. His maps, made around this time, analyze novel sorts of information, such as linguistic practices and agricultural production. In 1821 he presented a "mineralogic agricultural" map to the Academy of Sciences, which aimed to show the massive distribution of production. It was based on information collected by his administration in 1808–9 and also made use of his collaboration with Omalius d'Halloy. A conceptual barrier had been overcome, implying that there was a new approach to territory and its depiction. A few years later, the advocates of *statistique morale*, who have already been mentioned, systematically used the thematic map as a means of examining the homogeneity and trends of contemporary society. They concocted a France of physical anthropology, of illiteracy, of crime, of wealth, playing with space in a vertiginous fashion. The map became a unique instrument of discovery, whose purpose was to stimulate thought.

Yet this exceptional success was shortlived, for the nineteenth century brought a prompt return to figures and tables. The shape of France was invested with symbolic power, and as soon as it had been mastered it tended to become apparent, and thus neutral. It had increased in standing, but, paradoxically, it became devoid of interest as soon as it was no longer used to present problems. It was to remain so for a long time.

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