CHAPTER 7

The Recruitment and Training of Administrative and Technical Personnel

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Introduction

State-building can be dealt with by inquiring into the activities in which European states engaged during the early period of their development. The preceding chapters of this book have singled out such activities considered to be of crucial importance. But these activities needed actors who implemented the policies decided upon. The present chapter focuses upon these actors, it deals with the human resources in the process of state-building; it particularly asks for the recruitment and training of both administrative and technical personnel. This means we touch upon fields like administration, taxation, judication, military service, but also military and civil engineering, construction and building, technology and industry.

However, to enumerate these fields does not indicate their relative importance in any specific case of state-building. We have to expect that the countries under consideration will show differences in their patterns of bureaucratic structures, in their ways of recruitment and training of personnel, and in the very degree of bureaucratization itself. These differences may be largely explained by the features of the various countries showed when embarking upon state-building, as has been pointed out in the preceding chapters: differences in preconditions, timing, cumulation of developmental crises, size of tasks either given or deliberately set up, etc. Patterns of personnel formation (mainly studied under the heading of recruitment and training) will therefore serve as an additional indicator, rather than as an independent variable, of Western European state-building. Nevertheless there is good reason not to underestimate the long-term impact of traditions of personnel formation upon the subsequent process of state- and nation-building.

Administrative Personnel

Comparative analysis tends to stress differences rather than similarities. But we have to keep in mind that in spite of the many varieties of national histories in Western Europe their basic experience, some of their most lasting institutions and cultural traits were common, and that the specific features of each age were shared by all nations. The development of a professional public service was influenced in all European states by the heritage of Roman law and of administrative procedures of the medieval church. They also shared the restrictions of an age without the modern means of communications and therefore of penetration and integration (like roads, railways, and telegraphs).

The few bureaucratic structures available to them at the onset of modern times were that of the church, their own central offices and that of corporations like cities and great enterprises. Fifteenth- and sixteenth-century kings and ministers did not know that they were heading toward the development of a salaried, full-time professional civil service as we are inclined to conclude from the outcome in nineteenth- and twentieth-century Europe. What choices were open to them?

The most obvious choice was to transfer the medieval ecclesiastical hierarchy into the service of the monarch. For centuries kings had used ecclesiastics as their administrative officials at different levels. Since the late fifteenth century even cardinals, like Wolsey in early sixteenth-century England and Richelieu and Mazarin in seventeenth-century France, were leading ministers of the king, and below them bishops and lower clerics served the worldly authority as well as the spiritual. But there had always been the problem of dual loyalty which had led to the tragic fate of such eminent ministers as Thomas Becket or Thomas More. Uncontested loyalty to the supreme authority of the state, the king, had to be assured before an efficient and permanent civil service could develop.

Modern observers tend to look at the civil service mainly from the point of view of efficiency and impartiality. The service has to be able, disinterested, and law oriented. But before it can show such characteristics it had to learn to be loyal. As long as different families strove for kingship, as long as the territory of a state was contested by several princes, as long as the church demanded universal

influence, loyalty to a specific house could not be taken for granted. All medieval English kings, and the Tudors as well as the Stuarts, had to face this problem; it was attacked by the Valois in France but solved only by the Bourbons who at least succeeded in uprooting the strong local self-determination. The relatively quick development of efficient government in late-coming Prussia may well be due to the fact that loyalty to the Hohenzollerns was not contested any more after the Great Elector.

Efficiency as a goal of administration for centuries meant mainly the ability to extract resources from the country for the king, his court, and his army. The ever-growing standing armies on the Continent, the similarly growing navy in England, the splendor of the royal household and the administration itself demanded greater means than any of the monarchs could command traditionally from the royal demesne and feudal levies. No early modern king could live "on his own" as the medieval tradition expected him to do. After loyalty the second important virtue of the king's service was, therefore, the ability to raise money. Financial administration was the crucial point of early modern administration. Local administrative offices were set up for this purpose; the penetration of central authorities throughout the king- or princedom meant raising taxes, customs and excises.

The second big task of local administration was to keep law, order, and peace. Administration thus was intermingled with jurisdiction and arbitration. Functions which later became separated and are nowadays regarded as incompatible were united in one office or a single person. If, when, and how they developed into their modern shape characterizes the specific course the state-building process took in the European countries. These differences between the British, French and Prussian experience in their common striving for a "modern" state now have to be studied. This means to outline bureaucratic structures; to estimate the degree of bureaucratization as well as its penetration into the society; to describe the ways and means of recruitment and training; and to reason about possible explanations of the findings and their implications upon state-building. In a second section we will turn to technical personnel.*

* Wolfram Fischer is responsible for the parts on Britain, and Peter Lundgreen for those on France and on Prussia.

BRITAIN

The basic fact from which we have to start is that Britain in her state-building period neither possessed nor developed a civil service as it is defined in the textbooks: a corps of specifically trained, examined, and appointed men, independent from the political conjuncture, impartial in discharging their services, fully salaried and pensioned by the state and fully employed by it, subject to a hierarchical order in which they moved upward according to seniority or merit or a mixture of both.[1] This "ideal-type" civil service is a product of very recent developments and was never fully reached in any country. In Britain a modern civil service was established only in the nineteenth century, when "state-building" in the sense used in this book had already come to a final stage. A number of parliamentary commissions on the reform of public administration, the first appointed in 1780, developed the criteria of a modern civil service one by one: Public officials should work for their money and not hold sinecures; they should discharge their duty in person and not by deputy; they should receive fixed salaries out of public money instead of perquisites, emoluments, and fees; they have the right of superannuation and pension at old age which implied tenure of office; they ought to be servants of the Crown and not of a particular minister; and they have to reach a certain standard of qualification before being appointed or promoted. First limited, then open competition was introduced to substitute merit for patronage, and the service itself was graded (see Cohen 1941).

How can one explain that England could achieve internal peace, authority for the king's orders and parliamentary statutes, an effective judicial system and the exaction of enough means to sustain a court, a government and military forces without employing a modern civil service? As the following pages will show, the answer is partly to be found in definition. If we want to understand early modern European government, we cannot adhere to the stringent notion of civil service used above. England, in particular, though lacking a civil service as a formally trained and regulated body of administrators, possessed experienced servants of the king and of the king's ministers. "Unreformed" as this service was by 1780, governed by haphazardous and obscure rules, full of abuses and discrepancies,

[1] For a short definition see Finer 1932: 1163: "The Civil Service is a professional body of officials, permanent, paid and skilled."

it had proved quite efficient by the standards of the sixteenth, seventeenth, and eighteenth centuries. After all England at the end of the eighteenth century was economically the most progressive, politically one of the most powerful countries of Europe. Either "government by amateurs"—as the English governmental system is often called when compared with continental states—was as successful as "government by professionals"[2] or England was not as amateurish as is often supposed, but commanded a group of administrators who, if not professional in the sense of full-time, specially trained and fully salaried, were at least semiprofessional, that is experienced, competent, and reasonably devoted to the service. The thesis offered in this chapter is that a combination of both explains the performance of the English public service before the nineteenth century. Amateur government in early modern times was not *eo ipso* inferior to the crude type of professionalism in France or Prussia, and the English administrators were not as amateurish as we generally believe. A considerable number had some formal training either at the universities or the inns of court (or both), most were thoroughly trained "on the job" either as servants and clerks or higher officials, lawyers or merchants, or as administrators of landed estates and commercial enterprises, and even if they only worked part-time for their government and spent more energy for private business this does not necessarily mean lesser service; there are indications that it induced greater efficiency in discharging public duties in order to gain more time for private aims. Accordingly the lack of adequate salary and dependence on fees, perquisites, and even bribes, or the mixture of public and private affairs so common in the sixteenth to eighteenth centuries, was no decisive drawback against the Continent. Salaries were insufficient everywhere and all public services consequently were deeply corrupt by modern standards. Corruption may have been even less where the pursuit of private enterprise was allowed or expected as where it was suppressed without adequate compensation.

Unfortunately, there are no satisfactory means to measure and to compare the performance of different administrations in earlier modern times. The degree of corruption can only be guessed, the success of administration may be deduced from the degree of penetration a government or the degree of integration a nation achieved —and here England certainly fared no worse than others—but it

[2] This distinction is made *inter alia* by Ernest Barker (Barker 1944: 32).

remains a matter of judgment how far such success can be attributed to efficient administration as compared with other factors. A crude measure is the ratio of administrative personnel to population. However, even these data are deficient. The scarce evidence allows the conclusion that England had a smaller proportion of its population employed in public administration than either Spain, France, or Prussia. At the beginning of the seventeenth century, English central government agencies employed between 1,400 and 2,000 officials. Some hundred customs officials, administrators of Crown lands and local administrators, e.g., Clerks of the Justices of Peace, have to be added. At the same time there were about 650 senior offices in the central French government and 3,000 to 4,000 provincial administrators alone in Normandy. The government of Castile had about 530 *major* posts, and it is said to have employed 60,000 subordinates of its Exchequer and 20,000 in the Inquisition (Aylmer 1961: 440, 452). Even if the Castilian numbers are exaggerated, there remains the basic difference between England's reliance on a relatively small number of local officials and the continental states' employment of a vast number of lesser officials in the provinces. In the central offices, the difference seems not to be very striking. If we assume that between one-quarter and one-third of the English central government employees were senior, they numbered between 350 and 650, which corresponds roughly with the French or Spanish figures. One could also make a case for the necessity of approximately similar central government establishments even if the total population of a country differs. It is in the local administration where the differences in population matter, and in this respect late seventeenth- and eighteenth-century England clearly was less administrated than the Continent.

At the turn of the eighteenth century the number of public servants in Britain was still small. According to E. W. Cohen, in 1797 there were 16,267 officials working in 75 offices; if one excludes the Irish offices the figure is 15,884 in 53 offices. By far the largest establishments were to be found in the Excises and Customs Offices with more than 6,000 servants each, 150 of which at the Customs held sinecures. The Post Office followed with just under 1,000. In contrast the Home Department accounted for only 26, the Foreign Department for 24, the Colonial Department for 12 established officials. But also the military offices were small: 353 at the Ordnance, 160 at the Navy Board, 45 at the Admiralty, 24 at the Commander-in-Chief,

and 16 at the Quartermaster-General. Six of the largest ten offices had to deal with revenue collection and administration, two with military services, one with the court, and only one with public service proper (Cohen 1941: 34–35).[3]

Figures for the French and Prussian administration have been collected by Herman Finer (Finer, 1932: 1242, 1167). The 300,000-odd bureaucrats France is supposed to have employed at the eve of her revolution is hardly comparable to the English figures since it includes every minor city scribe and gate keeper. The Prussian figures for 1800 which in 1930 Dr. Arnold Brecht, then *Ministerialdirektor* at the Prussian Ministry of Finance, furnished to Herman Finer "with reserve," indicate a discernible higher proportion of officials in the population: 23,000 in all central offices including police for a population of 11.6 millions as compared to 15,884 for the 10.7 million in the United Kingdom and 16,267 for the 15.9 million inhabitants of the British Isles at the same time. The ratio would thus be 2 : 1,000 in Prussia, 1.5 : 1,000 in the United Kingdom and 1 : 1,000 in the British Isles.[4] In both cases figures for local government are not included. They would probably widen the difference.

The nineteenth century witnessed a remarkable change, the twentieth century a revolutionary one, in the composition of the public service in all West European countries, but particularly in Britain. Though this development is not our immediate concern in this study, it may be useful to point at some of its most outstanding characteristics to contrast its speed, size and nature with the slow and undramatic developments in the state-building, but preindustrial period. The first feature is the overall growth of public service. Between 1890 and 1950 the total working population in Great Britain grew by

[3] The ten largest offices were:

1. Excise (U.K.)	6.580	6. Taxes	291
2. Customs (U.K)	6.004	7. Navy	160
3. Post	957	8. Treasury	142
4. Stamp	521	9. Victualling	118
5. Ordnance	353	10. Lottery	115

[4] The Prussian figures as given by Brecht and Finer are very doubtful indeed. They seem to include the lesser officials, the number of which is virtually unknown. (For the higher service alone see the table on page 504 of this book compiled by Peter Lundgreen.) Also the population of Prussia in 1800 is not correct. It was closer to 9 million than to 11.6 million; even the greater Prussia of 1816 only counted 10.4 million heads. (See Kirsten, Buchholz, and Köllman, 1955: vol. II, 159.) If the number of officials is correct, Prussia would have had about 2.5 central government employees in 1,000 as compared to 1.5 in 1,000 in the U. K., a more significant difference.

57 percent, government employment (excluding nationalized industries), however, by 450–500 percent. No other single major "industry" which can be traced over the entire period had a similar growth rate. Over 30 percent of the net addition to the working population (between 1931 and 1950 over 60 percent) went into the public service. The share of government employees in the total work force grew from 2.4 to 7.7 percent (Abramovitz and Eliasberg 1957: 26). The second feature is the change in the structure and composition of the public service. At the middle of the nineteenth century, 80 percent of the whole service belonged to the military, not to the civil sector. If we include the civilian staff of the armed forces, their share was about 85 percent in 1851. Over the next century it fell to 55 percent in 1914 and 39 percent in 1950. Among the civil service proper revenue lost its predominant character. Its leading position was first contested by the postal services, then by the agencies regulating the economy and controlling local government, finally by the social services. "On the eve of World War I, the British central government was still mainly a government of soldiers and sailors, postal clerks and tax collectors" (Abramovitz and Eliasberg 1957: 39). By 1950 Britain was a welfare state as far as the size of her civil service was concerned: 40 percent of all civilian government employees served social needs or regulated the economy according to social goals (Abramovitz and Eliasberg 1957: 62–66).

Compared with these fundamental changes the development of the public service in England between the middle of the sixteenth and the nineteenth century seems marginal. We do not have reliable figures for the fifteenth and sixteenth centuries, but from the studies of the different central government offices and their agencies, we can conclude that at the end of Thomas Cromwell's career the number of royal servants cannot have been much less than the 1,400 to 2,000 in Charles I's reign. With the "Tudor Revolution in Government" the main government departments of the English state-building period were established, including those temporary but important offices which aimed at the penetration of government authority into the borderlands, the church and the aristocracy: the Council of the North, the Council in the Marshes of Wales, the Court of Augmentations and the Court of Wards and Liveries.[5]

[5] These conclusions are drawn after consulting the following monographs: Bell 1953; Brooks 1953; Elton 1953; Hurstfield 1958; Reid 1921; W. C. Richardson 1952, 1961; Skeel 1924; Williams 1958.

It would be convenient now if we could prove that the administrative achievements of Thomas Cromwell undoubtedly constituted the definite departure from medieval administrative techniques as G. R. Elton tends to assert. Unfortunately, English history is more complicated. Herman Finer in his comparison of continental and English governmental systems, states that "it is impossible . . . to find a person of the mental calibre and strength of character of Richelieu, Colbert, Louis XIV in France or the Hohenzollerns of the late seventeenth- and eighteenth-century in Prussia devoting themselves with such ardour to the creation of a complete social scheme and administrative system to support it" (Finer 1932: 1281). The beginning of a "state-building period" in England therefore, cannot be dated easily though a case could be made that the Tudor period (1485–1603) does fit this notion better than any other single period of English history. But neither had the Tudor kings to start from scratch (as did the Hohenzollerns), nor was the existence and structure of their realm uncontested when the last Tudor, Elizabeth, died. A century of absolutism, civil war, parliamentary rule, restoration and revolution followed, before the English state was consolidated (see Plumb 1967).

Accordingly, we look in vain for any discernible period in which a premodern civil service was created. The great medieval historian T. F. Tout speaks of the English civil service of the fourteenth century and dates the administrative servants of the English crown back to the "earliest ages of the English state" (Tout 1915), Sir Charles Oman called Henry I (1100–1135) the "father of English bureaucracy" (Oman 1910: 479). G. R. Elton sees the bureaucratic age arise with Cromwell's reform in the 1530s (Elton 1953), others regard Samuel Pepys, the great Treasurer of the Navy Board at the end of the seventeenth century as the first civil servant who introduced rules, procedures and examinations into the service (Bryant 1933–1938), while modern observers might be unwilling to speak of an English civil service at all before the reforms of the mid-nineteenth century. Though it might be possible to exclude all ambiguities by a rigid definition, this would obscure the very problem that we have to solve, namely to find out how the English kings had such a remarkable success as state-builders without creating a service elite.

The answer is sought usually in the nature of the English society, its relative openness, as compared with continental countries, the less privileged situation of its nobility which was not exempt from taxes and left the title only to the eldest son, the gradual merger of

nobility, landed gentry, professions, and merchants into a political class large enough to allow merit to be rewarded, open enough to allow office, land management, adventure, and commerce to be linked. Francis Bacon's famous statement has often been repeated—that the institution of the Justices of Peace made England unique because it "knits noblemen and gentlemen together" while "abroad in other countries noblemen meddle not with any parcel of justice, but in martial affairs; matter of justice that belongs to the gownmen; and this is it that makes those noblemen the more ignorant and the more oppressors . . ." (quoted in Hurstfield 1968: 148).

We should, however, not mistake Tudor or Stuart England for a modern society where the middle class ruled, "representative of the rising professional and commercial elements in society rather than the older aristocracy (as in W. C. Richardson 1952: 15–20; similarly Elton 1953). Some of the ministers of the kings still descended from the Norman families who played such a dominant part in most of the middle ages, and a nobleman still had the best chance of holding a great office of state. Lawrence Stone has estimated that the total number of jobs open to a gentleman in the whole of the royal household amounted only to 175 including some sixty pensioners. One of two members of the aristocracy had a chance to get such a job, but only one out of five of the leading five hundred country families and only one out of thirty of the parochial gentry (Stone 1965: 464–467). For a man born in the peerage, personal character was the main factor in determining whether or not he achieved office; no aristocrat was strong enough to impose himself on an unwilling king or queen; but for the lower gentry, the professionals and burgesses ability was not enough—except for the ablest lawyers and exceptional successful merchants like Lionel Cranfield. They needed patronage and favor too. On the other hand, patronage and favor alone—except under James I—were not enough either; among those who enjoyed it, the abler ones had the better chance to rise. The greater mobility and openness of the English society did leave some marks in the sphere of government; however, its proper field of influence was the economy and the social structure. Younger sons of the nobility began to learn professions and participate in enterprise while successful businessmen and officeholders established their families as landed gentry.[6]

[6] For a balanced view see Wilson 1965: chapter 1: "Social Degree and Social Mobility." Also: Hill 1967: 33–35, 185; Notestein 1954; Rowse 1950: chapter VI: "Social Classes."

The sources of Britain's success have to be sought not only in "society," but also in "history," in the "great technical perfection" which the administration of the realm achieved "at a very early date"[7] and the continuity which it enjoyed over more than a thousand years. Few countries can be found which have been built so steadily, gradually and securely. Even the most turbulent periods of English history, the Norman Conquest, the Reformation, or the Civil War and the Revolutions of the seventeenth century, did not interrupt British traditions or suppress ancient institutions in favor of revolutionary new devices. King and Parliament, common law and local self-government prevail in the twentieth-century Britain as well as in medieval England, and "medieval government . . . left as one of its heritages the conception of a professional, organized civil service" (MacCaffrey 1961: 104).

Therefore, the student of the state-building process of Britain cannot help but go back to the earlier medieval times if he wants to identify its beginnings. He also meets considerable difficulties if he wants to single out any period as *the* crucial one in regard to state-building. Was it the victory of the Normans over the Anglo-Saxons? Was it the victory of the Tudors over the Roman Church in the sixteenth or that of the Parliament over the king and his court in the seventeenth century? However, as far as the formation of central administrative institutions are concerned most historians agree that the crucial innovations were created during three discernible periods: (1) the Anglo-Norman formation of the centralized feudal state governed by the king and his household (ca. 1080–1230); (2) the Yorkist and early to mid-Tudor period (ca. 1470–1560) in which government departments established themselves definitely as separate institutions run by great officers of the king who recruited a bureaucratic personnel by patronage; and (3) the nineteenth century (more precisely the years 1780–1870), when the modern government-machine based on departments responsible to parliament and staffed by nonpolitical civil servants through open competition was created (Elton 1953: 424–426; Aylmer 1961: 438).

But even if we agree that these three periods were more creative than others in respect to forms of administration and channels of recruitment, we will find that innovations occur in between, that there is no jump from one system into another, and that old institutions

[7] This is the judgment of a Russian scholar, Alexander Savine (Savine 1909: 17), quoted by Rowse 1950: 312.

exist long after they have ceased to serve a useful purpose. So it can be argued that the separation of some court offices as government departments occurred long before the "Tudor revolution in government," namely by the end of the twelfth century when the Exchequer was established or during the thirteenth century when the Chancery and the common law courts came into existence.

Difficulties arise particularly if one tries to find the disjunction between medieval and modern times in England. When can separate government departments be clearly distinguished from the king's household? When have "public" servants a status different from that of the king's "private" servants? When is the state-building process in Britain completed? Any time between the fourteenth and the early nineteenth century could be chosen, and this choice could be defended against opposing arguments. Rather than clinging to one specific period of "state-building" in England we will try, therefore, to follow its gradual growth through the centuries up to 1700, pinpointing some of the crucial crossroads.

The Middle Ages. "The public servants of the crown, whose special sphere was administration and finance, and who were professional administrators, not professional soldiers, go back to the earliest age of the English state. They existed, but barely existed, in the later days of the Anglo-Saxon monarchy. They first became numerous, powerful, and conspicuous when the Norman king gave England a centralized administration and a trained body of administrators. Their influence rose to a high level in the reigns of Henry II (1158–1189) and his sons, when England, thanks to their work, was the best governed and most orderly state in all Western Europe." This is the judgment of one of the greatest authorities in English medieval administrative history (Tout 1915: vol. III, 194). Though we may be inclined to cast doubt in the naïve use of terms like "public servants" for such a period, and may cast equal doubt on reported facts like "professional administration" by "a trained body of administrators," we cannot wipe off this evidence by our more cautious use of modern language by insisting on a more precise definition of the criteria of a "trained body of administrators." At about the same time as Tout, C.W.C. Oman in his contribution to the *Encyclopaedia Britannica* of 1910 also speaks of Henry I's autocratic government "through bureaucratic officials" (Oman 1910: 479). More recently (1951) A. L. Poole found that "the descent of English

bureaucracy from the chamber in which the King slept and the adjacent closet, the wardrobe, where he hung his clothes, is one of the curiosities of history" (Poole 1951: 9), and most recently, Joseph R. Strayer stated that "England by 1200 had permanent institutions run by professional and semi-professional officials," and by the end of the thirteenth century the two pillars of the medieval state—the Treasury and the High Court—"were manned by experienced, professionally minded officials" (Strayer 1970: 33, 42).

Who were these officials and how were they recruited and trained? Beyond doubt the majority of them consisted of clericals, trained in the then rare skills of writing, counting, bookkeeping, Latin and in the use of French. But they must also have known how to survey land, to administer estates and to judicate and some clearly had a business or legal education or both. According to Strayer, the first permanent functionaries of the European kings "were estate-managers, the reeves and shire-reeves (sheriffs) in England, the *prévôts* of France, the ministerials of Germany" (Strayer 1970: 28). It has been often observed that the very existence of the *Domesday Book* points to the fact of a "trained bureaucracy" and of some degree of centralization in government already in the eleventh century.

Perhaps one ought to turn to the early medieval church to fix the beginnings of English state-building since the church gained a spiritual unity for England long before a political unity was attained. Throughout the earlier Middle Ages the church was the only institution which produced men of administrative skills able to administer a country. When Alfred the Great, after his peace with the Danes in 886, restored learning and culture in England—gathering scholars from the Continent, Wales and Ireland, and founding schools—he laid the fundament from which "technical personnel" for the administration of his realm could be drawn. Like Charles the Great in his empire on the Continent, he tried to control and integrate his newly won territory and people with the help of scholars and administrators. Three generations later, a man of the church, Archbishop Dunstan, worked out a body of legislation to establish the rule of law in the English realm. Peaceful state-building was already in progress when internal strife between the magnates, new Danish invasions, and finally the conquest of the Normans put an end to the Anglo-Saxon period of British history.

William the Conqueror's penetration of the country was amazingly thorough. In order to establish the royal rights and to learn

how his new land "was peopled, and with what sort of men" (Stenton 1943: 606, 649) he had a group of royal officers, survey the land and evaluate it. It is not entirely clear who the surveying royal officers were, how they were trained and recruited. Though most of the higher ranks may have been Norman and other knights from the Conqueror's entourage, he also seems to have made use of the administrative personnel he found at the English court.

F. M. Stenton considers it possible that the staff of Edward the Confessor's writing office "passed as a whole into King William's service" (Stenton 1943: 633). The following great redistribution of land and power—the combination of several thousand small estates into less than two hundred major lordships—was a remarkable administrative achievement. Since only few details of this process are known, we can only presume that William commanded a considerable staff of military and clerical administrators.

The head of the administrative staff, the chief of the civilian "technical personnel" of the English kings throughout most of the Middle Ages was the chancellor, and the chancery was the first administrative office where clerks were organized (Strayer 1970: 33–35). The second important office which required trained personnel was the Exchequer. Already the Anglo-Saxon kings received a considerable income in money instead of in kind. Collectors and accountants, perhaps auditors too, must have existed and the *Domesday Book* shows that the king's officers already had begun the practice of assaying the money to make sure that the silver content of a payment corresponded to its nominal amount. Probably Alfred the Great possessed a central treasury, William seems to have changed little in the financial system he found, but in the twelfth century the Exchequer, in which the Old English Treasury had been incorporated, can be identified as a separate department in the king's household (Stenton 1943: 636).

Under William a new institution gained a firm footing in England which was to characterize British government perhaps more than any other: the jury. Though, in the first place a device of jurisdiction, it also marked the administrative process. Through centuries governmental decisions were taken through the judiciary. The jury became an essential part of what has become known as amateur government, and it was used already under William in cases which in modern continental Europe would be deferred to an administrative court: to establish facts or rights in disputes between individuals

and government or between different branches of government. Again the *Domesday Book* proves that at the end of William the Conqueror's reign the entire country had become familiar with the jury system.

A further contribution of William the Conqueror to state-building in England can be found in his relation to the church. Stenton asserts that "he took the position that it was the duty of the secular ruler to supervise the government of the church within his dominions" and that "he never admitted that the Pope was entitled to impose a religious policy on secular princes" (Stenton 1943: 650). Through William's favorite ecclesiastic, Lanfranc, a native of Pavia who had been trained in the Italian tradition of civil law before he turned to theology and finally became Archbishop of Canterbury, the tradition of Roman law achieved a first foothold in Britain. Though weak in judiciary in comparison to common law, the influence of Roman law upon English administration can be traced through centuries.

We cannot follow up in detail here, how the governmental institutions developed during the Middle Ages from the foundations which were laid by the Conqueror. Some remarks must suffice. From Henry I (1100–1135) most English Kings ruled through the *curia regis*, the royal council, in which they assembled their most important officers, the justiciar, the chancellor and the treasurer, together with some knights and clerics. They constituted the supreme court of the realm. The council soon began to delegate special functions to committees. Some members of the council sat as the court of the Exchequer to receive and audit the accounts of the royal revenues and to give legal decisions in all questions connected with finance. Members of the council were sent out to preside over shire courts similar to the commissions the Great Elector used 500 years later in Prussia. Loyal men were appointed sheriffs to do the king's business in the shires according to the rules laid down by the council and subject to its scrutiny. After periods of decay administration was restored from time to time by able administrators like Chancellor Thomas Becket and Justiciar Richard de Lucy. Slowly, the administrative offices of the king began to separate from his household. T. F. Tout dates this development back to Henry II's reign, that is in the second half of the twelfth century. As a main reason he considers the necessity to keep certain officials and the records, registers and rolls, which resulted from the king's administration and jurisdiction, at fixed places while the king and his court were still wan-

dering from one place to another. The Exchequer received a permanent home at Westminster, and by the end of the twelfth century its staff no longer served at the court. The chancery remained longer with the royal household. But the mass of evidence it assembled finally forced it in permanent headquarters in London like the Exchequer, though a part of the staff continued to attend the king on his travels. "By the days of Edward III (1327–1377) the chancery, like the Exchequer since Henry II had become a government office, self-contained, self-sufficing, with its own staff, traditions, methods, and plainly separated from the courts" (Tout 1915: vol. III, 197). For a generation the privy seal took the place of the chancery as the king's immediate writing office. Then, following the demands of the barons, it went out of court too.

Who now were the personnel who conducted these administrative affairs? As in the earlier times, by far the majority of the "civil servants" still were clergymen: they had not necessarily taken the holy orders nor were they learned theologians, often they had not even received the minor orders. The tonsure alone sufficed to enter the status of a cleric and have the benefits of the clergy, e.g. the right of being judged only by clergymen. "Thus the clerical class was very elastic and very large. In fact it comprehended all educated men, most lawyers, most physicians, all scholars, graduates, and students of universities, and most boys in grammar schools" (Tout 1915: vol. III, 200). The only great exception in fourteenth-century England was that of the common lawyers. Study and exercise of common law was open to all laymen. But common lawyers seldom entered the king's service in these times. "It was the civil and canon laws, the law of Rome and the law of the church, not the common law that was most pursued by those who aspired to the public service" (Tout 1915: vol. III, 200). These laws were taught at the universities, and in this respect English public administration seems to have barely differed from the chanceries on the continent.[8] At least the most pretentious posts were filled by university-trained lawyers. Some of the English chancery clerks of the later Middle Ages were doctors of civil and canon law; and for notaries university education was indispensable. Notaries drew up documents in "public form" for diplomatic relations, especially for treaties. "A man had to pass through a long training and a careful examination before he could be admitted to

[8] For the overall importance of the legal studies at the medieval universities and for the European culture see Rashdall 1936.

the position of notary, by the pope or the emperor, or by some delegate appointed by the conferring authority (Tout 1920–1933: vol. v, 106). Since nearly all English notaries were empowered by papal authority the "Roman" standards were applied to them. Sometimes the English offices appealed for help to continental chanceries if letters and treaties had to be drafted that were strange to the English officials.

Not all administrative servants of the English kings possessed, however, university degrees. Many in the lower ranks probably were dropouts since the dropout rate of medieval universities was —by modern standards—very high "in spite of the mildness of medieval examiners" (Rashdall 1936: vol. III, 453, also 448). Others came straight from a grammar school with nothing other than a training in Latin and a good handwriting. In the privy seal, as a lesser office, it was unusual for a clerk to be a *magister*; most of them were called *dominus* like any other nonacademic cleric.

The reason why most of the medieval clerks were clerics must not only be sought in education. It was also convenient for the king's control. Most of the medieval offices tended to become heritable. An officer endeavored to make the office his "property" and pass it on to his son, relative or friend. For the king this meant that claims on offices were more easily avoided if a cleric was appointed who usually had no heir. Moreover, a cleric could be more easily rewarded for his services or removed from office by granting him ecclesiastical livings, dignities, prebends, or bishoprics while the laymen usually claimed a grant in land from the royal domain. The most important and confidential office of the Middle Ages, the chancery, was, therefore, up to the fourteenth century exclusively staffed with clerics.

Laymen could more frequently be found in the Exchequer. Here, by the later Middle Ages, many posts had become "hereditary serjeantries"; they were firmly in the hands of certain families who often appointed substitutes to do the real work for them. Accordingly, many of the clerks in the Exchequer were nominated not by the king but by some nobleman. The "patronage" and the "sinecure" system which is so typical a strain in the British public service up to the nineteenth-century reforms can be seen at work already in the twelfth century. T. F. Tout concludes, therefore, that "it was only by employing clerks that the monarch could be master of his own household (Tout 1915: vol. III, 202).

The methods of appointment differed. The Norman kings sold offices "to the highest bidders" (Tout 1915: vol. III, 203). Later the incidents for the sale of higher offices are rare, with exceptions of some reigns, notably that of Richard I, the "Lion Hearted" (1189–1199). He, at the beginning of his reign, sold all offices he could to raise money for the crusade. More often, however, high offices were granted for loyalty or presumed loyalty as a means of strengthening "the king's cause" against rivaling pretenders to the throne or as counterpart against mighty barons. Some of the medieval kings aroused storms by appointing continental vassals or unworthy personal favorites to the highest offices. Frequently high officers had to face charges of corruption which resulted in the loss of office and the confiscation of property; some were impeached for treachery and lost not only office and property but also life. Among the rank-and-file tenure was more secure, but occasionally nearly the whole staff of an office was fired. But such general turnovers were extremely rare. Generally, the rank-and-file servant was as remote from "politics" and its evil consequences as in more modern times. He wrote and counted for the king or his immediate master whoever that was.

It is extremely difficult to establish from which social strata the technical staff of writers and accountants came. The leading officials of course were mostly of high birth. At first they belonged to the Norman nobility, later also to the lesser landed classes. As far as the lower ranks are concerned, we cannot be so sure. Probably they were drawn from quite different classes. Their clerical status often obscures their social origin. Obviously becoming a cleric and receiving a literate education for many was a means of social rise. Medieval barons when criticizing their clerical rivals in the high offices of state sometimes refer to their humble origin. It would probably be wrong to assume that many came from the lowest strata of society, but there are enough instances of men of middle-class origin making their way into the king's service.[9] Best known are of course the famous cases, e.g., Thomas Becket who was born as the son of a Norman merchant family settled in London. After attending a grammar school Becket received a business education at the office of a relative before he entered the household of Archbishop Theobold of Canterbury. Clerics of humbler origin are to be found more often in the less important offices which offered a life-long career rather than a

[9] For some instances see: T. F. Tout 1920–1933: vol. V, 105.

springboard to an ecclesiastical office. Here the son of a vintner—like Geoffrey Chaucer—or a grocer, the bastard of a priest and an unmarried woman, and the poor orphan can be found besides the son from a landed family of Yorkshire or of a king's justice. Middle-class values, the drive for achievement and for accurate work, seems to have been early planted in the offices of the English kings. T. F. Tout judges that the medieval clerks had attained "a respectably high level of general competence." He not only praises the chancery and privy seal clerks for the neat writing and well keeping of their rolls, but also the clerks of the Exchequer for their bookkeeping. "The very addition of Roman numerals was painful enough in itself. It was made more laborious by reckonings by scores and by hundred, by sums, calculated differently in marks and in pounds, shillings and pence, being all mixed up together in the same columns or figures. Yet you will rarely find mistakes in arithmetic even in the most complicated of accounts" (Tout 1915: vol. III, 212).

Where did they acquire these skills? Their basic and formal training seems to have been conducted at schools, universities and inns of court. But the routine the king's servants achieved was by in-service training. Except for those of higher birth or previous ecclesiastical career who entered office at a leading position, the king's clerical officers usually began their services as the clerks of a clerk, as under-officers who were employed by the member of the "establishment" of the office rather than by the king himself or the office as such. With the expansion of the tasks of these offices, the established clerks tended to delegate duties, particularly the routine writing, counting, and bookkeeping work. Many of the medieval clerks claim therefore a much longer service as is shown in the office records. The reason is clearly this tendency to "infeudate" office work. As the medieval tenants-in-chiefs infeudated their land to under-tenants, thus creating a network of feudal obligations, the greater medieval office holder had his tenants and sometimes under-tenants who pledged allegiance rather to him than to the king, or perhaps to the king through him. The poet and civil servant Thomas Hoccleve praised as his "master" the poet and civil servant Chaucer. Though he thought little of his abilities and never received one of the ecclesiastical benefices, Hoccleve was well acquainted with three languages —Latin, French, and English—was familiar with the *belles lettres* of his days; in short, was an educated man. There are many incidents

that learned men in science or humanities did make their living during the English Middle Ages not in monasteries or at ecclesiastical prebends but in the king's offices: Walter Map, the twelfth-century satirist, held office in the royal household; Walter Chatillon, a poet of distinction, was employed in Henry II's chancery; and Roger of Hereford, a learned astronomer, served as an itinerant justice of the king (Poole 1951: 242).

Earlier Modern Times (Sixteenth to Seventeenth Centuries). Medieval government in England as elsewhere has been checked mainly by two forces which competed with the king for power: the great nobility and the church, the latter commanding a sophisticated administration while also interwoven into the secular government of the king. Competition between the king and the barons had led to a subtle balance of power, a set of "constitutional" rules which secured the prerogative of the king as long as he respected the privileges and rights of the estates and worked through the procedures on which they had agreed. He had to "live on his own" financially and respect the laws; the barons, slowly supplemented by representatives of the greater gentry in the counties and some lawyers and merchants to represent the boroughs, would watch their rights and grant the king taxes whenever they were convinced it was necessary; but they would not interfere in the daily business of administration. By the end of the Middle Ages, this balance was precarious, and the struggle for supremacy was not over, but an arrangement was reached that gave the English king more sovereignty than any continental monarch enjoyed at the same time. If the sixteenth century witnessed a decisive increase in the sovereignty of the king, it was not because of revolutionary developments in this sphere, but because the English king triumphed over the church and destroyed the dualism of spiritual and worldly power. After the Act in Restraint of Appeals of 1533 had declared the realm of England an empire governed by one head and king, and a year later Parliament had granted the king the supremacy over the church, the "king's law in ecclesiastical cases" was substituted for the canon law, and the teaching of canon law forbidden in the universities. The Roman Civil Law with its magnification of princely power took its place. Under Elizabeth I all ecclesiastics, lay officials, and persons in receipt of stipends of the crown were required to take an "oath of su-

premacy" accepting the queen as "only supreme governor of this realm" promising to her faith and allegiance, and repudiating all foreign jurisdiction and authority (Keir 1966: 80–81). A high commission was appointed which could remove disobedient clergy, coerce dissent among the laity, and exercise censorship over the press.

But supremacy over the church was only the beginning. It was followed by supremacy over society as a whole, an extension of royal action beyond the medieval boundaries. Law laid down by royal proclamation instead of statute in parliament abounded; the council, its offshoots, and the Court of High Commission exercised a mounting control not only over the church and its former property, but over trade and industry, labor, wages, and prices, over local government and its police forces, over the individual and his freedom of belief.

The government apparatus grew and became more efficient in most affairs of public life. The king gained better control over finances, the justice and diplomatic affairs and worked through a more elaborate body of central bureaus. The growing central apparatus of government called for more professional, trained staff. That break with the church at the same time dried up the most important source for recruitment, the literate cleric. This combination was bound to strengthen the other sources of supply for administrative personnel, the universities, particularly its law faculties, the Inns of Court, and the apprentice-like training of clerks in the households of higher royal servants. The university-trained solicitors continued to dominate in diplomacy, which "for the first time" turned into a "regular profession." Permanent embassies, unknown in the medieval world, were established, and "the ablest minds of the age thus enlisted themselves among the king's servants, and magnified the sovereignty of which they were the instruments" (Keir 1966: 99).

The common lawyer prevailed, of course, at the common law courts, the King's Bench, Common Pleas, and the Court of the Exchequer. The judges at these courts, appointed by the king, were required to have reached the degree of sergeant-at-law before they became eligible to the Bench. In marked difference to the Continent where the customary law was overcome and obscured in the state-building process by the principles of Roman Law which the royal bureaucracies implemented, the common law courts in England "remained an imposing fabric of judicial organization and power" (Keir

1966: 28). The new courts were fitted into the old system and amalgamated: they added a new strain in the complicated fabric of English law, but did not set it on a new track. The judges of the common law courts remained close to the crown. They advised the king and his councillors as to the drafting and the effect of legislation, answered questions addressed to them by the executive, and when they traveled through the country and sat as Court of an Assize, they acted "as political as well as judicial representatives of the central authority" (Keir 1966: 29). They were regarded and regarded themselves as kings' servants, not as proponents of a counterpower.

But the Common Law courts remained financially largely independent from the crown; they lived more on the fees they collected than on salary. Though in two of the courts judges held their offices "during the king's good pleasure" and only those on the Exchequer "during their good behaviour," in practice their tenure was secure. The power of the king over them was restricted. He had to rely on their cooperation. Therefore, it is only half of the truth, if one maintains the absolutistic tendencies in Tudor England. Absolute supremacy was gained only over the church, never over Parliament or the common law. The same is true in respect to personnel. The need for an administration staffed by trained experts grew, but the Tudors "never developed a professional and salaried bureaucracy wholly amenable to its own direction and command" because "in the last resort, that service was voluntary and incapable of rigid enforcement" (Keir 1966: 7). This is particularly important for the local administration. There, like in medieval England, the Tudors took their resort to unpaid members of the local gentry. Since the fourteenth century, the justices of the peace had more and more taken over the place of the sheriffs as local representatives of the central government's orders. Originally the duties of the justices of the peace as developed by fourteenth-century statutes, were mainly to keep peace and order; but they also performed a number of administrative duties including the control of wages and prices. In Tudor England more such duties were added: prevention of profiteering on foodstuffs, examination of the by-law of guilds, supervision of weights, and measures, and regulation of apprenticeship and of agricultural labor. In dealing with these matters they employed the methods of jurisdiction in which they had routine. Administration, therefore, was carried out under judicial forms and became impreg-

nated with judicial characteristics. The execution of the central government's orders depended on the readiness of the justices of the peace to cooperate. Though the council tried to enforce obedience to its orders by citing reluctant justices of the peace before it or removing them from office, its control was limited since the justices also were responsible to the common law courts, and they did not regard themselves—though appointed by the king on the nomination of the lord chancellor—"simply as agents of executive power, but magistrates whose supreme duty was to conform with and carry out the law" (Keir 1966: 31).

One main reason why this should have been so tends often to be overlooked: the dominance of the jurists in the Commissions of Peace. A "quorum" of lawyers was required if the commission sat in quarter sessions. Though only 15 to 20 percent of the justices of the peace were trained in law (as against 55 to 65 percent local gentry), the lawyers attended the sessions more regularly than the other members; a regional study of Somerset has shown that in the early seventeenth century no session took place without at least three lawyers present. About a quarter of the men actually sitting as justices of the peace had been called to the Bar.[10] Moreover, legal education became more and more common for justices of the peace. While in 1562 still 66 percent of the working members of the commission had no training at a university or Inn of Court, in 1636 there were only 16 percent without one, the percentage having steadily declined over the years.[11]

Obedience to the law, moreover, served as protection against royal caprice and despotism. It strengthened independence. These limitations of direct command may have contributed, however, more to the state-building process in England than the imposition of royal commissars (like in France and Prussia) since the cooperation created a sense of common obligation. It was a give-and-take. Thus one can regard the justices of the peace and similar semiofficials in Britain as a factor of social integration, of nation-building by consent. That it was possible to rely on such a type of personnel proves that the state-building process in England was carried much further in late medieval and early modern times than on the Continent.

[10] There are two excellent case studies of local government and its personnel in late Tudor and early Stuart England: Barnes 1961 and Willcox 1940.

[11] The members are from a sample of six counties. See Gleason 1969: 83–95.

It would be misleading, however, to assume that the entire local government was done by unpaid gentlemen or that it went without friction. The justices of the peace had paid clerks at their disposal who performed much of the actual administrative work. The principal officer, the *Custos Rotulorum*, usually had one or two assistant clerks. Officials of the hundreds, the townships and other local subdivisions were the executors of their orders. As a consequence of the supremacy over the church, Tudor England seized upon the ancient parish administration which before the Reformation was ecclesiastic. Now it was made an instrument of poor relief. Overseers were appointed to control the execution of the poor laws, and the parishes developed a civil organization which was also used for other administrative purposes like the upkeep of the highways. Officials of earlier units of local administration filled the lower ranks in this parish administration. Most of the lower officials were paid, and even if they only worked part-time in public affairs they certainly were not honorary officials like the justices of the peace themselves who often *represented* local government rather than *executed* it.

Moreover, the Privy Council in London could, and actually did, concern itself with numerous questions of a local character. For the border regions, special courts were set up—the Council in the Marshes of Wales and the Council in the North which exercised a more tight control, often more reinforced by military means than the local landowners would have done. Direct control could be executed also through the Lords Lieutenant, mainly members of the nobility who were appointed to levy troops in case of war and sedition and to supervise the military organization of their shires. By the end of Elizabeth's reign they also served as "commissars," supervising the local authorities, reporting on their doings, advising the Privy Council on their election or removal (Thomson 1923).

Tudor England, then, was not without some officials who could use coercion. Interestingly enough it did not develop a bureaucracy for recruiting military personnel. Except for some permanent garrisons, a small force of cavalry and a few ships, the yeomen of the guards, and some ordnance officers, the kings had to rely on mercenaries or on shire levies. Modern military technical personnel became important for Britain only after the state-building process was well under way, if not practically completed. It served the maintenance of its supremacy over the waves rather than the accomplish-

ment of internal unity or peace. In the state-building process proper —if one can say so for Britain at all—the English kings relied on premodern military personnel.

After this brief survey of the characteristics of the English administration in Tudor England we will take a closer look at the recruitment and training of its personnel.

At the highest and most general level, the King's Council, the Tudors inherited and perpetuated a body of policy makers and advisers emancipated from baronial predominance. Often they became professionals by service.[12] The specialization of functions, e.g., the jurisdiction by committees like the Star Chamber or the Court of Requests, led to a specialization of services. Trained solicitors were appointed to these courts who did not serve at the same time as political councillors or in administrations. The ecclesiastical element lost its predominance. Though one should not assume a sudden break caused by the Reformation, this change is symbolized by the fall of Cardinal Wolsey in 1529, and the rise of Thomas Cromwell as the leading minister of Henry VIII.

The change should, however, not be overemphasized. Cromwell was a trained lawyer as many royal officials before and after him. His career began in the household of a great man close to the king, as a servant's servant, and the service for his immediate master was mixed up with services for the supreme master, the king. Private and public spheres were not yet sharply defined and divided, and not much, if anything, changed in this respect during the sixteenth and early seventeenth century. Double, even manifold loyalties remained common; and the king used part-time service of men who had been successful in business and continued to be so while putting part of their time at the king's disposal (Elton 1953: 307–315; W. C. Richardson 1953; Tawney 1958; Prestwich 1966).

Tudor England needed particularly urgent full-time financial administrators. The wars of the fifteenth century had exhausted the royal finances. One of the first reforms of Tudor England was directed, therefore, toward a more efficient financial administration (see W. C. Richardson 1952; Elton 1953; Hughes 1934). The reform led to a concentration of financial affairs first in the Chamber, a household office, and later to a revival of the Exchequer. After the confiscation of ecclesiastical property huge tasks were added. Though most of the property was soon sold, it first had to be evalu-

[12] See also Strayer 1970: 90–94 on the "professionalization of the inner council."

ated and parts of it remained in royal hands. To deal with the newly acquired rights and estates two judicial and administrative bodies were created, the Court of Augmentation and the Court of First-Fruits and Tenths (W. C. Richardson 1961). Both had to be staffed. At the beginning of the reign of the Tudors, the chancellor of the Exchequer had bitterly complained about the staff he found in the office and as administrators of the crown lands. He described them as inefficient, poorly trained, sometimes illiterate. They lacked the "cunning and discretion to ordre and directe the said lyvelode lawfully." He had proposed, therefore, that only "learned men in the lawe" should be appointed royal stewards (W. C. Richardson 1952: 51). The following reforms aimed not only at better organization, and the establishment of office procedures, but also at a better training and more deliberate recruitment of the administrative staff. In 1485 auditors, surveyors, and receivers were appointed for each unit of the royal estates throughout England. Apparently these men were selected household officers, drawn from different departments according to their knowledge of land surveying and assessing and their training in law.

Some had been in private business before they entered the royal service. This illustrates an important feature of the English way of recruitment and training of administrative personnel: in a higher degree than continental Europe, in contrast especially to Prussia, the English administration relied on the private citizen and his training for his business affairs. England neither established administrative schools (like France), nor drew her personnel from military sources (like Prussia). The lower-upper and the upper-middle classes—whether landowners, businessmen, professional lawyers, or trained administrators, united by a common interest in peace, lawful, profitable, and effective administration, the protection of property and their private affairs—helped the crown to gain control over the country. By virtue of their participation the British government became a civilian, legitimized and respected government; in their own interest they acknowledged the king's sovereignty as long as it was controlled by Parliament which was in turn a "committee" of the same "political society" (Neale 1949).

As long as this educated and well-to-do upper and middle classes were small and well distinct from the large uneducated, propertyless, nondemanding lower classes, the recruitment of the public service from among them could work informally. One knew each other.

Family and neighborhood, friendship or business associations were reliable sources for judgment of a person's credibility and ability. This was a perfect setting for recruitment by patronage. It did not necessarily mean ineffectiveness. A man who looked for a substitute or an assistant in office was well advised if he chose a capable one. But neither was it foolproof. There were enough sinecure or semi-sinecure posts where one could install an unsuccessful relative. He would not make a career but a living. Those who made a career often were the more capable officers, but not necessarily so. Again favoritism played a considerable role. Personal loyalty was essential as long as the rivalry for the throne and the rivalry for the great offices continued. Men like Wolsey or Cromwell supplanted their personal household with their personal servants into the royal government. Important and lucrative offices went to those whom the leading ministers could count upon. Inheritance of offices was not yet overcome, and reversion for offices generously granted when more aspirants waited than openings occurred (which was usual) or when somebody was to be rewarded for specific services. Often several persons held a reversion for the same office, and lengthy disputes arose when an office finally became vacant. Transfer from one office to another was handled similarly, while the clerks themselves tried to establish a rule of seniority. Those who commanded favor in addition to capacity were much better off than those without a highly placed advocate. No merit system was formally established, but this does not mean that merit remained necessarily unrewarded. As far as departments were subject to formalized procedures, as soon as enough division of labor was established and specific functions were given to specific offices, specific competence could be rewarded, but most of the offices did not yet afford the specialist but the generalist, the literate man who had some knowledge in law and much in office routine. The organizations which Cromwell and others set up were still short-lived and flexible.

Since this unformalized system of recruitment did rely on the cooperation of the upper and middle classes as a whole, it failed to produce a distinct civil service as a career, and consequently as a social caste. Both France and Prussia created a civil service as a professional élite with formalized training, a peculiar value system, an *esprit de corps*, and a characteristic arrogance toward the ordinary citizen. Britain avoided this special feature of forced state-building

by the very weakness of her system or informality. The British civil servant remained much more a member of his greater social class.[13] It is true that also in Britain families of public servants developed, but the system itself remained more open, and part-time service, part-of-the-life service, and amateur-service were more frequent than on the Continent. Not only businessmen, but also lawyers kept their private affairs alive while serving the king. In Tudor and early Stuart times there was no incompatibility between government office and a seat in Parliament. On the contrary, the ambitious royal servant secured himself a seat at the Commons as the first step of a public career, and representatives of a borough or a county tried to work more efficiently for their constituency by entering the king's service not with a view of a life-time career but for a specific time. Again professional lawyers or businessmen were particularly prone to divide their time between private and public affairs. Thus the early modern public service in England remained in a much more fluid, adaptable state than on the Continent. Bureaucratization, though growing, remained imperfect.

Thanks to the painstaking study of G. E. Aylmer (1961), we possess some statistical evidence about the king's servants in the first half of the seventeenth century. He explored their social origin, their recruitment, training, promotion, and pay by taking a sample of 194 of the about 900 officers he could identify.[14] The absolute numbers he gives are very small indeed, the ratio of "unknown" factors (e.g., father's status) very high: but since no better figures are available, we have to work with them warning the reader that they are not more than very rough approximations.

The first striking result is the date of entry in public service. Only 1 of his samples was under twenty years of age, 30 in their twenties; the largest group, 42 in their thirties; 23 entered the king's service only in their forties, 16 in their fifties, and 3 were older than sixty when they began their public career (79 unknown). This corresponds well with what we know about the careers of many civil servants in the later Middle Ages and the Tudor time. Many began their

[13] The term "civil servant" is used here though it was not yet known at this time. It was first applied to the Indian Civil Service in the first half of the nineteenth century (Tout 1915: vol. III, 193).

[14] Out of a group of over 900 officials Aylmer took 240 whose name began with A, B, or C. About 80 percent of them he could identify. These 194 constituted his sample (see Aylmer 1961: 253–277).

"apprenticeship" not in the king's service but in the household of one of the king's ministers, or they executed business and land administration before entering the royal service.

The father's social status confirms what we know from Tudor times: Most (118) of the officials belong to the upper-middle classes, the landed gentry, the professions, and the businessmen. But a considerable portion (41) belong to the greater landowners, the peers, and especially the knights; the rest (35) are unknown.[15] Twenty-two percent of the fathers of whom rank and occupation are known held office already. The percentage of officeholding fathers is strikingly higher in the nobility: nearly 54 percent of the fathers who were peers of knights also held office in the king's service, while only 11 percent of the fathers who were esquires or below. This shows that for the middle class officeholding was an exception, a means of social rise, while for the nobility it was still usual. It also reinforces the view that the chances to hold office were still much greater for peers and upper gentry than for the middle classes.

Not all known public servants rose in rank. (Some who advanced were imprisoned or were executed.) From the known cases less than one-third remained stationary in rank, 8 percent declined from their father's rank, nearly two-thirds rose, about half of them by one step, the rest by two or more steps.

More than three-quarters of all officials in the sample ended their lives as esquires or better and about 97 percent became at least gentlemen. The picture may be distorted somewhat since the unknown

15 The Social Status of the Fathers of 194 Public Servants 1625–1642

Social Status	*Known Cases* Number	Percent
Peers (New Peers 3 and Bishops 1)	9	5.8
Knights	32	20.1
Esquires and Equivalent (Courtesy esquires)	48	30.2
Esquire—Gent—Borderline	9	5.8
Gents	29	18.0
Citizens, Merchants, Sea Captains, Yeomen, Plebeians, Other Low-level Gents, Foreigners	32	20.1
Total of Known Cases	159	100.0
Unknown	35	
Total	194	

Source: Aylmer 1961: 263.

cases could be those of the lowest in social rank, but they are so few that they cannot alter the pattern of a general rise in rank by public service.[16] This, of course, gives a ready explanation why public service, even part-time, was sought for by many who could do economically without it—merchants, landowners, peers. In this respect England certainly is no exception but fits well into the general European pattern, particularly in the age of baroque when rank and style counted even more than before and thereafter.

As to their formal education, three-quarters of all servants in the sample had a higher education—either university (78 out of 154) or at the Inns of Court (68 out of 154). Practically all descendants of peers and knights entered the king's service with such a higher education: 23 of them had been at Oxford or Cambridge, 1 at a foreign university, 19 at the Inns of Court. In the other ranks the percentage with higher education seems to have been about two-thirds with a slightly but not significantly higher rate for the lower classes as compared to the esquires. The only marked difference is to be found in the choice of the place of education: while sons of esquires and the higher nobility attended somewhat more frequently universities than Inns, the education of the gentlemen's and merchant's sons was nearly equally spread between both institutions (25 Inns of Court, 24 university).[17]

16 Final Social Status of 194 Public Servants, 1625–1642

Social Status	*Known Cases* Number	Percent
Peers	24	13.0
Baronets	9	4.8
Knights	64	34.6
Esquires	51	27.6
Esquires or Gents	18	9.7
Gents	14	7.6
Other	5	2.7
Total of Known Cases	185	100.0
Unknown	9	—

Source: Aylmer 1961: 265.

[17] Aylmer's figures on education (Aylmer 1961: Table 21, 273) are somewhat puzzling. He does not indicate whether he could identify the educational background of all the 194 members of his sample. In relating his absolute figures to 194, I assumed he did, otherwise the percentage of servants with higher education would be even higher than 75 percent. Aylmer also fails to indicate whether or not all counted as coming with higher education had reached a degree. Since we know that in the middle ages many did not, it would be an astonishing change, if all had finished their education.

Aylmer has also tried to measure the factors that counted for recruitment into the service and for transfers and promotions. He distinguishes between "patrimony" (family-patronage) and "patronage" (influence or connections other than family). The other modes of entries he found are "purchase of office," "special qualifications" (particular professional abilities), and direct "royal favour," often as a reward for services to the king. Since often a man's career cannot be attributed to only one of these factors, he also counts several (half or part) instances. In three-quarters of all "whole instances" entry in the service was either due to patrimony or patronage (or to patronage in a wider sense). Purchase occurred only 6 times in his sample of 80 "whole instances," or 5 percent, reward for services or royal favor only 5 times (6.5 percent). In 11 cases or 14 percent he assumes that ability was the key which opened the public career. More frequently than the clean cases are those in which more than one factor played a role in the award of a public office. Again patrimony or patronage are the most important advantages for a man. In more than a half of these cases they played some role. Again purchase and special royal favor seem not too frequent (4 and 7 "half instances"). More often, nearly three times as numerous as in the ordinary cases, "special qualifications" appear to have been partly decisive. We can conclude that patronage and the combination of patronage and merit was the most important factor in the recruitment for the king's service. Merit alone was not very strong. Only extraordinary ability seems to have been enough to enter a career in government, but merit helped if patronage was there. Or, to put it differently: among those patronized, the men of ability had a greater chance to succeed than those who possessed only connections.

This statistical evidence seems to be determined by the bulk of less prominent officials. For them the most common way of entrance was the transfer from private to royal service, a mode of entrance which Aylmer counts as a combination of patronage and special abilities. In prominent cases a combination of patronage and purchase happened more often; patronage also could be purchased as Sir Henry Vane, a prominent figure of the 1630s and one of the richest commoners in England around 1640, recalls: "I put myself into Court and bought a Carver's place, by means of friendship of Sir Thomas Overbury which cost me £5,000" (Aylmer 1961: 85).

Open purchase always was disapproved, and several times proposals were made to prevent the sale of offices, particularly since those who had bought theirs were accused of extortion. The servants themselves seem to have not disliked purchase since it helped to secure the office. Purchase meant acquisition of a "property" which could be less easily withdrawn. Sometimes fathers in office bought their office for a son, or more likely, bought a reversion in case of their death. In some cases a legacy was made to a relative *expressis verbis* for buying a place in a government office. Though open and hidden purchases happened, Tudor and Stuart kings never relied on the sale of office to the extent of the French monarchy (Göhring 1938; Mousnier 1945; Swart 1949).

The ways of entrance into the civil service seem to have varied according to the social status. "Those with aristocratic, Court or administrative connexions, were likely to owe most to patrimony or patronage; members of gentry families without these connexions to patronage or purchase, or both, plus, often, some element of ability as well as ambition; businessmen to purchase, plus patronage or ability, or a mixture of the two; lawyers, private secretaries, and confidential servants to patronage with ability, often in the form of linguistic or other special skills" (Aylmer 1961: 96).

The majority of public servants in Aylmer's sample never was transferred or promoted but stayed in the post once awarded to them. This points to the fact that public service was not yet a formalized career. But about 44 percent of the sample made it one. About a quarter of the whole sample was transferred or promoted once, 37 (or 19 percent) were transferred or promoted more than once. These probably were the very same who rose in social status more than one rank. Of the 37 promoted more than once, 30 ended their lives as knights, barons, or peers; 17 of them became privy councillors.

As factors in promotion, patrimony plays practically no part, patronage only about in one-third of all cases. Purchase becomes somewhat more important, but in the sample it occurs only four times as the only reason for promotion or transfer, and four times as half- or part-instance. More important are reward for service or special royal favor and merit. Of 38 plain cases, Aylmer attributes 12 to merit (qualifications, ability, but also seniority=experience), 10 to royal favor, and 11 to patronage. In the split and uncertain cases, patronage still ranks first with 28 of a total of 68, but merit comes

close with 23 and favor ranks third with 13 instances. We can conclude that patronage was important also for promotions, but not all-important. Good service and proved ability helped to make a career. This is still far from an objective merit system, but not without it altogether.

Special professional or technical knowledge could be essential. For clerks in the chancery or the common law courts, knowledge of medieval handwriting was required. In seventeenth-century England they had to be specially trained for this purpose. In all offices clerks had to know how to draft legal documents. Letter writing and the keeping of letter books belonged to the general and time-consuming tasks of even senior officials who "must have spent a great deal of time making fair copies of accounts, issuing of receipt books, legal instruments, warrants, orders, and letters" (Aylmer 1961: 154). Some of the foreign experts needed, of course, skill in foreign languages, particularly French; in the Office of Arms the knowledge of heraldry was indispensable, and the noble art of *courteoisie* was required in many of the household offices.

Altogether the "technical knowledge" of the public servant in the early modern England was not yet much specified—and the reformers of the 1780s will complain about it—so that part-time administration and amateur administration still is possible, not only on the local level. G. E. Aylmer claims for the England of Charles I, that "from the Privy Council downwards the country was to a considerable extent governed by part-time officials, by men who were essentially 'amateurs' even if they were paid. . . . If Charles I can be said to have had a bureaucracy at all, about three quarters of it were amateurs" (Aylmer 1961: 282). This holds true, however, only if one accepts his definition of an amateur as everybody who served part-time or was not a "professional." As his own evidence shows best, most of the higher civil servants had a university or legal education; many were trained in the household (office/secretariat) of a higher servant. Others had an in-service training, lawyers often a training and experience at law offices and courts. The businessman had learned how to make business transactions and how to keep books or handle foreign exchange. It can hardly be said that he came as an "amateur" in the customs service or to the provision of army and navy. The noble or gentleman without any preparation is hardly to be found in the public offices of the king, perhaps in some of the household departments. To speak of "amateur-administration" for

early modern England is, therefore, misleading. The Prussian subaltern officer or sergeant who collected taxes when he had finished his military duties would be as much an amateur as the French businessman who bought a customs' office. Defining the amateur status as widely as Aylmer and some other authors do, means to deprive it of any real meaning. Local administration, it is true, had much more of an amateur character than on the continent where the king's central offices sent out their commissars; but even in this respect it is more meaningful to speak of centralized versus decentralized government, of government by cooperation and consensus versus government by coercion and subjection. The *specificum* of British early modern government is not the amateur-status of its officials but the recruitment of administrators without separating them socially. Government officials did not become a social class of its own, a caste of bureaucrats, but through officeholding nobility and greater gentry incorporated lesser gentry, and the commercial and professional bourgeoisie into the "ruling classes." Officeholding, whether full time or part time, whether through being "learned in the law," or possessing some other administrative capabilities, meant social rise and adaptation from the lower side, penetration of values and customs from the upper side, meant social integration—not for the nation as a whole, since the lower classes definitely were excluded—but for the old landowners, the newer ones, the businessmen, and professional lawyers.

In this social pattern patronage, sinecure, and service by deputy get a specific meaning. It is not only the way in which the upper classes secure their privileges, place their kinsmen, and augment their income, but also it serves to recruit suitable persons of lower origins as individuals into the "political society." The higher or the senior one is, the more one is able to reduce one's actual work and have it done by a deputy, often a personal servant. The more influential one is, the more one can place persons of one's trust into other offices. Restrictively managed, such a system of recruitment and promotion tends to form a service class, a narrow, inbred group of officials separated from the rest of the country. The English upper classes did not manage it in such a way; they allowed people of humbler origin to come in.

Why should they do so? We cannot assume that they had a conception of the virtues of an "open society"; if they did, it served their own interests. Since service meant income (and status), office prop-

erty, it was useful to exploit it efficiently. A clever tailor's son like Samuel Pepys or a merchant's son like Thomas Cromwell with a good general education, a bright mind, and personal ambition, promised to be a more useful manager of an admiral's or bishop's affairs than a dull relative. If one could find a kinsman of this sort, all the better. Pepys' first master, Edward Montagu, the joint commander of Oliver Cromwell's fleet, might have taken the young Cambridge graduate as the manager of his affairs because he was distantly related to him, but his next master, the shrewd and calculating Sir George Downing, took him to the Exchequer as his personal servant because of his proved abilities as an administrator (Bryant 1933–1938: vol. 1 passim). A man in the hierarchy of service who wanted to get ahead or stay on at least, was well advised to look for capable assistants. It is true, the higher the birth, the higher one could enter the service. But there were only few absolute limits which prevented others coming from below from competing. And the more incompetent an officeholder of high rank was, the more he needed the services of experienced deputies.

At the end of the eighteenth century a cleavage was found between those "amateurs" who held great offices and the professionals who actually conducted the business. Over the centuries, because of the lack of any systematic approach to governmental organization, more and more posts had become obsolete and served only as sources of income. This was an abuse and offended the minds of people brought up on middle-class values in an age of enlightenment. It was certainly unjust, but not necessarily inefficient. The secret of the English amateur-administrators was that they employed professional deputies. High rank gave name, influence, protection; low rank contributed loyal and efficient service and it was rewarded by social advancement. By keeping the boundaries open, English political society managed to rejuvenate itself without losing its characteristics and remained in control of the government longer than the nobility in most continental countries.

FRANCE

In the course of the history of the major European countries fundamental similarities can be discerned, though chronologically at different time periods. With reference to the development of modern government we may speak of the sequence from medieval constitutionalism to mercantilism, absolutism, bureaucracy; and onward

to modern constitutionalism (Friedrich 1950: 25). In terms of the developmental crises theory of state- and nation-building, the first development would be the coming into existence of the modern state (penetration and integration); the second one would indicate the process of restraining and subjecting government to popular influence, i.e., nation-building (identity, legitimacy, participation) (Rokkan 1969: 63ff.). If we center our study on the state-building period of both France and Prussia, we have to outline the evolution and working of absolutism with special regard to the personnel involved as agents. The comparison between France and Prussia seems the more rewarding since the specific course of historical development in Germany, as distinct from the West European one, often has been considered to start only in the beginning of the nineteenth century, its content being the belated nation-building. If this is true, the *Ancien Régime* should provide good conditions for insights by comparative history.

As to state-building and public servants constitutional history knows the evolution of absolutism by superseding the rule of Estates, or, in terms of administrative history, the war to be waged by *commissaires* (i.e., new agents dependent upon the king's centralizing will) as against *officiers* (i.e., fairly independent representatives of traditional and particularist forces). The dichotomy of *officiers* vs. *commissaires* is a useful concept for classification of existing personnel as well as for evaluation of the state-building achievements of France and Prussia respectively. Such an analysis may, however, point out great differences between the two state-building processes.

Differences are to be expected if one considers the sheer length of time France's state-building took, in contrast to Prussia's. For centuries France had gained experience in superimposing royal agents upon an existing structure of administration. The newly installed officials started as a sort of *commissaires* (in control of *officiers*), but developed into *officiers* who were subsequently deprived of some of their responsibilities by the creation of competing new offices until new supervising royal agents (*commissaires*) were installed. Examples are the *baillis*, since the thirteenth century, and the *gouverneurs*, since the sixteenth century. Besides this procedural experience at the disposition of the France of the eve of absolutist government, there were certain preconditions of a modern state because of centuries of existence as a political entity. This leads to the question of dating

the modern state of France (a question which hardly arises at all for the case of Prussia).

The territorial unity of France was largely achieved by 1285 and finally completed when, after the end of the Hundred Years War with England, the last great fiefs fell back to the crown. Militarily the fifteenth century witnessed the beginning of a standing army, and fiscally the permanent levy of excise. The war of the Huguenots meant a setback but the great Henri IV stabilized the France of his time in terms of religion. Thus, it has been accepted to speak of the time after 1610 as of French absolutism proper (cf. Lublinskaya 1968). If we concur in this opinion, we have to determine the administrative pattern of 1610 supposedly to be overcome by the forces of absolutism.

Notwithstanding the general unity of France, in 1610, there is hardly any conceivable effective organization to execute a central will. Of course, at the top of the government machinery, the *conseil d'état* in its classic and characteristic threefold composition exists: (1) the *chancelier* being the only one of the old feudal grand officers (like *connétable*, *chambrier*, or *bouteiller*) who was not reduced to a mere holder of title but remained head of the royal chancery and was in charge of judicial administration; (2) the *secrétaires d'état*, usually four in number and being actual ministers of the king, partly without *portefeuille*, partly as heads of certain departments (army, foreign affairs, *maison du roi*, navy); (3) one (or two) *surintendants des finances*. For the time under consideration, Sully filled the latter station and was the most famous officeholder until Colbert reorganized the top level of the financial administration under the name of *contrôleur général*.

Why did these fairly well designed top levels of governmental authority fail to produce an efficient, penetrating, executive administration? It is not the Estates, as the formula "from rule of estates to absolutism" might suggest, which impeded the flow of directives from above. The French Estates did not play any influential role from 1614 to 1789. First and most important, it is the independence of the various corps of *officiers*; second, and perhaps somewhat less important, the provincial particularism which had its stronghold mainly in the power of the provincial governors.

During the upheavals of the sixteenth century these governors, who originally had been in charge of military matters only, had enlarged their powers, thereby becoming a sort of neofeudal lords.

One reason for this was that the governors were recruited from the local nobility. In the 1630s Richelieu destroyed the political weight of this nobility by reducing the governorships to mere decorative offices of title and honor. He transferred their powers to the *intendants*. With respect to the governors (or to the *noblesse d'épée*) French absolutism seemed to have made the game. After all it must have been a manageable task to replace some thirty governors by *intendants*. But what about the corps of *officiers*? Finance and law, the classical branches of inner administration, had their administrators for centuries, neatly organized into a hierarchy of *officiers*, and with the sovereign courts at the top. Especially these *cours souveraines* never acquiesced to consider themselves dependent on the king and his *conseil d'état*. Thus we find, at the top, the competition between the councils (as organization of government) and the courts (as organization of the top of the officers' hierarchy).

It is alleged that Richelieu (and Louis XIV) succeeded in limiting not only the powers of the governors, but also those of the independent corps of *officiers*: by limiting rights and influence of the *parlements*, and by using *intendants* again to direct the execution of the central will. This is precisely the point at which the dichotomy of *officiers* vs. *commissaires* becomes important. Historiography, however, does not agree on the results of the controversy between the two sets of officials. Appraisal of the achievements toward centralization and regularization stands against skepticism in this regard. What are the arguments, and what is the net balance? In order to reach some conclusions we are bound to study separately two layers of the French bureaucracy as a functional and social group: first the *officiers*, second the *commissaires*. The fact that this procedure will not be necessary in the case of Prussia indicates a lack of comparability of the two countries even for the period of the *Ancien Régime*.

The network of judicial and fiscal offices dates back to preabsolutist times. At the top of the judicial branch stood the *parlements* (up to thirteen in number), that of Paris being the most distinguished one and of great political weight. First, the *parlements* considered themselves as courts without further appeal. The institutional stages of appeal ran from the *prévôtées* and seigneurial courts over the *bailliages* (and sometimes still over the *présidiaux*) to the *parlements*. French kings, however, had the means to intervene in this

course of instances. At the end of the fifteenth century, they set up the *grand conseil* to counterbalance the *parlements* as last instance. Its special competence referred to conflicts between *parlements* and *présidiaux*. When time went on, however, the *grand conseil* became a sovereign court by itself which made the kings try once again to build up a royal instrument of judicial administration: the *conseil privé*, with the *chancelier* at top of it.

The Paris *parlement*, however, did not only demur about royal interference with the judicial realm but claimed certain political rights which amounted to a judicial control of the government's activities. New laws and ordinances had to show their concordance with traditional and existing law, a procedure which was undertaken by using the rights of *enregistrement* and *remontrance*. Thus it is obvious that French absolutism was bound to clash with these rights.

Before we discuss the conditions and implications of this organization and strong standing of the officership we shall look at the fiscal branch of administration. Fundamentally, the same picture is to be found, modified because of the typical demarcation between ordinary and extraordinary revenues of the state. The ordinary income consisted of the yields of the royal domain and of the fees for fiefs and courts. They were collected, since the early fourteenth century, by the *receveurs* on the *bailliage*-level. *Trésoriers* were the supervisors, and *chambres des comptes* served as sovereign courts, in the same honorable age as the *parlements*. The extraordinary income (*aides*) of the state consisted of the excises levied, mainly the *taille*, collected by *élus* within the *élections* and administered by the *généraux des finances* within the *généralités* (province-level). Again at the top we find, since the late fourteenth century, sovereign courts, the *cours des aides*. A third type of sovereign court within the fiscal realm has been the *cour des monnaies*, established in 1522 and in charge of matters related to the mint. In the course of the sixteenth century the hitherto separated administration of ordinary and extraordinary income was fused into a single one (cf. the War and Domains Chambers in Prussia) with *élections* and *généralités* as fiscal districts/provinces and *élus/receveurs* and *généraux des finances/trésoriers* used synonymously (Holtzmann 1910; Treasure 1966; Bluche 1966b).

We easily can understand the world of *officiers* if we look at its hierarchy cross-sectionally. First, there are some thirty *cours souveraines* which make up the so-called high *magistrature*: the *parlements*

and the *grand conseil* (judicial); the *chambres des comptes*, the *cours des aides* and the *cour des monnaies* (fiscal). The distinction between judicial and fiscal competences is yet only a very rough demarcation since there is no clearcut division in practice. On the contrary, the fiscal administration is at the same time judicial instance in cases of conflict (in this realm). Taking this into consideration, we can speak of the middle *magistrature* consisting of the *officiers* at the *bailliages, présidiaux* and *élections*. The *trésoriers* (in the *généralités*) made up a *compagnie souveraine* and were thus part of the high *magistrature* (Mousnier 1958: 330). Below the middle *magistrature* we may speak of the low *magistrature* which comprises the bulk of local officials (like *maires, échevins*) and the subordinate personnel at the courts and administrative district centers.

What about the numbers of the various offices named above, which after all may enable us to visualize the network of offices? It is rather difficult to give exact figures but the order of size may be indicated. For the sixteenth century, we may speak of some 10,000 *officiers* at all levels, with some 4,000 of the high *magistrature* (Göhring 1938: 33f.; von Borch 1954: 108). Since the sixteenth century we find a huge increase of offices especially within the middle and low *magistrature*. The estimates range from 46,000 offices, in 1665, to a total of 300,000 offices in the late eighteenth century, with some 50,000 offices of the upper ranks (probably high and middle *magistrature*) (Finer 1932: 1242; Göhring 1938: 258; Mousnier 1970: 17ff.).

This extraordinary growth in numbers of *officiers*, classified (in 1656) into 629 categories of offices, each class constituting a corps of *officiers* (Göhring 1938: 122), is only partly explained by the common procedure of narrowing competences of existing offices while simultaneously creating new offices for the competences left. This usage of functional differentiation and specialization might have led to greater efficiency though it was mainly undertaken in order to check tendencies of "feudalization" of offices, i.e., taking them as private and unalienable property. Curiously enough, however, the French state of the *Ancien Régime* did its utmost to enforce such tendencies: by tolerating and, afterward, legalizing the peculiar institution of venality of offices. This brings us to the core of the ancient system of French officership.

The custom of an officeholder to resign his office in favor of a benevolent buyer or a relative can be found in the fifteenth century

already. This private venality of offices was an attempt to circumvent the state, which, however, soon realized that this could be used as a further source of income. Thus the state started to sell offices (via the *bureau des parties casuelles*) and finally introduced, in 1604, the *Paulette* which meant a kind of tax on offices to be paid yearly, and which consequently made the offices a *de facto* private property. With this state of affairs it was only natural that, when the needs of the state for more money grew heavily (in the seventeenth and eighteenth centuries), the state gave in to the temptation of multiplying the offices again and again, using many devices of attracting the wealthy bourgeoisie to the offices and extracting a maximum of money from them (Göhring 1938; Mousnier 1945).

Several problems arise concerning the venality of offices. The most important question, perhaps, is that of loyalty. On the one hand, the *officiers* were representatives of the monarchy and did not think after all of subverting the ruling house of the king. Perhaps it is even safe to argue that the king as a seller of offices created loyalty by virtue of his patronage. On the other hand, the very institution of venality of offices provided for continuity and irremovability in the French bureaucracy as a corporate organization which eventually made the *officiers* to follow their own interests (of the corps or of the provincial particularism) rather than the king's. This state of affairs could make it nearly impossible to get decisions made at Versailles executed on the provincial and local levels, and it has been said that France has been under-administered in spite of the overabundance of offices (Mandrou 1967: 215). For the late eighteenth century Bosher has recently shown how the royal finances were both collected and spent by various groups of venal accountants (*officiers comptables* such as receivers, payers, and treasurers) who were virtually independent of administrative control and only accountable to the financial sovereign courts. Although they were officials, these venal accountants can be regarded as semiprivate financiers who rendered services to the crown similar to those of the tax farmers and *traitants*. This meant private enterprise in public finance, the state being more a client than the master of the financial agencies (Bosher 1970: 3ff., 67ff., 92ff.).[18]

[18] The relationship between the state (as a customer) and an executive agency (as an independent company) holds especially true with regard to the Farmers General who collected the "indirect" taxes (*gabelles, tabac*, customs, etc.) and employed

Second to loyalty ranges the problem of competence or efficiency. If the merit system (like in Prussia) can be regarded as functionally equivalent to the venality of offices insofar as both institutions led to a relative independence of the bureaucracy, there is a major difference in the supply of expertise. To be sure, there were formal prerequisites for officeholding in France, mainly judicial training. As yet this training was only, if at all, a necessary precondition but never a sufficient starting point. Exemptions from the formal prerequisites are always to be found if other factors were favoring the candidate (Göhring 1938: 313ff.; Gruder 1968: 17ff.). Finer summarizes:

> Anybody . . . who desired to acquire an office had to purchase the property from the owner and be installed in the function. The latter gave the Crown the opportunity of demanding guarantees of competence, but in fact the Crown and its officers through whose registers the transaction and the installation passed did not demand such guarantees: they were gallantly content with fees, bribes, and other favors personal or procured . . . Ability . . . , unsupported by money or family, was almost certain of exclusion from public office. The system, in short, was venality tempered by favouritism (Finer 1932: 1242).

Venality of offices, tempered by favoritism, does not necessarily indicate the low competence of officeholders (Eschmann 1943: 161; Van Riper 1958: 8). So far it merely means a strong narrowing of their recruitment. First, it was only the rich and very rich bourgeoisie who could afford to buy those partly very expensive offices (Göhring 1938: passim; Goubert 1959: 63). Second, it was the already established corps of *officiers* who decided upon admission by co-optation rather than by free competition. Considerations of this sort lead us to analyze the *officiers* as a social group. The major catchwords in this context are *noblesse de robe* and *bourgeoisie robine.*

A classical definition of the bourgeoisie, more juridical than social, is: urban citizens who are (1) nonnoble *officiers* (i.e., *roturiers*); (2) merchants; or (3) *rentiers.* In social terms one may draw a line between the many petty *propriétairies* living from their *rentes*; and

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a huge army of some 35,000 guards, clerks, accountants and inspectors organized into a bureaucracy of hierarchical structure.

the *grande bourgeoisie* serving as wheels which kept the *régime* in motion. It is under the latter heading that Goubert deals with the *bourgeoisie robine* and the *bourgeoisie négociante*, and although the great merchants to a certain degree represent an antipodal type of bourgeois as compared with the many *officiers* in the judicial and financial realm, the sons and grandsons of merchants tended to look for careers of higher social esteem, i.e., within the world of *officiers* (Goubert 1969: 221, 224ff., 229). The logic of this state of affairs was the ever-present goal to get ennobled by officeholding. In order to achieve this goal one had to buy an office which conferred nobility either at once or after twenty years' serving or to one's children or grandchildren. Thus was the *noblesse de robe* developed, no doubt bourgeois in social origin, but juridically part of the second order and even socially merging with the old nobility.

Much has been written about the *noblesse de robe*. One intriguing problem is that this nobility made up the top layer of social stratification, which could be reached via the venality of offices, but at the same time restricted access to it via a co-optative recruitment policy on dynastical grounds. *Grande bourgeoisie* and *noblesse de robe* have hence been seen either as an *élite mixte* of "capitalist-noblemen" or as opposed parties in the so-called feudal reaction (Goubert 1969: 335; Bosher 1970: 317; Ford 1953; Barber 1955). Both interpretations yet agree in that the *noblesse de robe* was a most powerful element in French society which eventually checked the development of a full-fledged absolutist government (cf. Egret 1970). Internally, the *noblesse de robe* exhibits a kind of subculture with its inner traits and slight variations. One of its students, François Bluche, underlines five aspects for characterization and comparison: (1) the nobility of recruitment (i.e., the number of generations of the candidate's family already noble); (2) the dynastical element (i.e., family tradition to serve); (3) the youth of the magistrates (usually younger than prescribed); (4) the mobility and variety of careers within the magistracy; and (5) the quality of outside careers open to magistrates (Bluche 1966a: 22ff.). Taking these indicators into consideration it is possible to rank the *cour des monnaies* at the lower end of the hierarchical high *magistrature* and thereby consider it a "society of transition between the *bourgeoisie robine* of the small courts and that grand *magistrature*" (Bluche 1966a: 28). At the upper end of the hierarchy the *noblesse de robe* did not confine itself to the most prestigious sovereign courts, but kept looking for

those outside careers open to magistrates which were mainly to be found in the upper ranks of the royal government and administration, notwithstanding the long-term frictions between councils and sovereign courts.

The intricate nexus of wealth, office, and social mobility, of bourgeoisie and *noblesse de robe* consolidated vested interests which had their stronghold in the largely independent sovereign courts and the corps of *officiers* but which also got a foothold in the very center of royal government and administration. One may wonder, after all, how the *commissaires* fit into this picture. Clearly, if French absolutism meant to build up machinery for the effective execution of a central will, the difficulties to be overcome must have been frightening. Could and did the *commissaires* succeed in cutting the independence and privileges of *officiers*? To answer this question we have to consider their numerical and social weight, their intentions and activities, and their interests as a group.

Commissary functionaries are defined as nonpermanent carriers of an *ad hoc* set and a specially defined commission of inquiry, control, bargain, or arbitration which usually bypasses the existing system of governmental or administrative organization. The historical example of the famous *missi dominici* of Carolingian times serves as prototype for the *commissaires*. In the consciousness of this heritage, France made use again and again of this pattern. This meant that it was necessary to try to control ordinary *officiers* by extraordinary *commissaires*. The one case which is of special interest to us and which is to be considered the crucial inner core of French absolutism and its building of a modern state is that of the *intendants*.

The existing and somewhat narrow controversy on the origins of the *intendants* is due, in a way, to questions of definition. We find single nonpermanent *commissaires* in the late sixteenth century. They are called *intendants de justice*, *des finances*, or *de police*. It is even safe to speak of military origin of the *intendants* like that of the commissars in Prussia (Finer 1932: 1224f.; cf. Hintze 1962: 248). In contrast, however, to Prussia the military spirit never played any significant role in the French bureaucracy. The *intendants* soon became permanent civil members of the government apparatus. From 1634 onward, the decisive development, is not yet seen either in the permanent officeholding and regional distribution of the *intendants* or in the cumulation of their formerly separated competences for jus-

tice, finance, or police. The creation of the *intendants* as a new institution meant the replacement of the old *officiers des finances* in their most important functions. In the words of Roland Mousnier: "From a reforming inspector the *intendant* became an administrator" (Mousnier 1958: 327).

Financial administration was bound to be inefficient and unjust since the traditional *trésoriers de France* claimed the right of *remontrance* and were closely linked to the provincial establishment. The Thirty Years War sharply increased, on the other hand, the needs of the Crown for money. In this situation Richelieu, who had already broken the power of the provincial governors, attempted to use the *intendants* as administrators of finance whereas until then they could only "négocier, obtenir des accords, stimuler" in this realm (Mousnier 1958: 329). In 1634 the first step was to make them presidents of the *bureaux des finances* under the *trésoriers*. This may have led to improved efficiency and pace, but could not touch basic decisions like the *répartition* of the excise. Accordingly, in a second step in 1642, the *intendants* were promoted to chief executives in the field of financial administration, the *trésoriers* being reduced to juridical and technical aspects of the business only (Mousnier 1958: 336). This development found its organizational expression with the *généralités* (and not, as imaginable, the *gouvernements*) which became the administrative units of the approximately thirty provincial *intendants*. Naturally, the regulation of 1642 was heavily opposed by the financial sovereign courts which refused to register it. The death of Louis XIII in 1643 seemed for a moment to give a chance to the *trésoriers*, but the *intendants* became the *de facto* heads of the *généralités* until this kind of financial administration was definitely consolidated under Colbert after 1661.

We now leave the chronological description and analyze the *intendants* as a functional group, their activities and competences: whether (and if so, how) they developed their primarily financial competence into a provincial governship. James E. King gives an appraisal of the *intendants* under the headline "Science and Rationalism in the Government of Louis XIV" (King 1949). He sees a system of inquiry as the rationale of any decision-making process based on rationalism and he consequently outlines the intendancy as a "reportorial bureaucracy" (King 1949: 137): *intendants* were "the legal eyes of the Monarchy," each serving as "a statistical agent of the central government," in order to base administration "on the accumula-

tion of political and social statistics" (King 1949: 128ff.). The sources at hand for the historian confirm this picture. The regular correspondence between Colbert (as comptroller-general, the head of the financial administration) and his *intendants* shows how the decisions were taken: (1) instructions or circular letters of the comptroller-general requested investigation and report on a given issue from the *intendants*; (2) the *intendants* investigated and submitted a report or survey; (3) the reports were studied by the subcommittees and bureaus of the councils; (4) a draft (of an ordinance to be issued or of a policy to be followed) was submitted to the councils of state for decision; (5) the outcome decided upon was communicated to the provincial *intendants* for execution.

Convincing though this procedure may be it had its Achilles' heel: the last link of the chain, the factual execution, the famous question of real vs. legal. Richelieu's achievement, according to Mousnier, had precisely been to have made the *intendants* administrators out of mere inspectors. How far does this hold true with reference to the various fields of reports sent in vis-à-vis the policies decreed?

Generally speaking it is perhaps safe to differentiate between traditional fields of public activity, come down as a legacy and firmly in the grip of the network of *officiers*, and those newly developed, the major case in point being no doubt economics or economic administration. In this respect it was only fortunate that the *intendants* legally and formally were part of the financial administration. When Colbert organized his central department, as a comptroller-general, he set up, besides the intendancies of finance and some other more technically oriented divisions, the bureau of commerce comprising four *intendants* of commerce. Thus he created an instrument to pursue his economic policy (mercantilism, or perhaps Colbertism) of regulation of industry and encouragement of enterprise in which the provincial *intendants* played an important role (King 1949: 192ff.; Parker 1965: 86ff.).

Considering the wide range of tasks to be fulfilled it is yet difficult to present a balanced statement with regard to the success of the *intendants*. Formally, "they administered the unpopular taxes, principally the *taille*, the capitation tax, and the *vingtièmes*; they administered conscription for the militia, undertook the execution of public works, directed the engineers in the construction of roads, maintained public order with the help of the mounted police,

administered poor-relief and the workhouses, promoted agriculture, and supervised all the regulations governing industry." In reality, however, according to Mandrou "the *intendant* was not much more than an agent of information, and sometimes of execution in certain economic fields where initiative was possible" (Finer 1932: 1234; Mandrou 1967: 218f.). He was confined to report on the attitude of the *officiers* wherever these were in power, and he had to resort to private subdelegates of his own when he wanted to have a task executed efficiently. If, by contrast, we have a preliminary look into the Prussian administration the picture is much more favorable with regard to the commissars' bureaucracy. The presidents of the provincial War and Domains Chambers (and not the *Landräte*) are clearly to be considered functionally equivalent to the *intendants* of the *généralités*. But what a difference as far as the top level personnel at hand of the provincial chief executives is concerned! The many councillors at the Chambers do not even matter as much as the famous Prussian *Landräte* and especially the *Steuerräte* who do indicate a degree of penetration into the periphery which we cannot perceive in the France of the *Ancien Régime*.

It is true, there is still much controversy about the actual achievements of the *intendants*, about the balance of the daily war against traditional authorities. Surely, during the eighteenth century both the *intendants* and their subdelegates became routinized and firmly established. But the whole question of a throughgoing administration down to the provincial and local levels depends on the relationship between *officiers* and *intendants*. It is a tempting, but probably at least partly misleading picture, to think of both as a functionally coherent body of executives, with the *intendants* enforcing their will via the *officiers*. The latter are simply too well known for their severe observance of rights for which they after all had paid considerably. On the other hand, the *officiers* (and especially the *parlements*) provided for the minimum of assent necessary to make royal warrants more than mere scraps of paper.[19]

[19] Our own inclination to discount the omnipotence of the *intendants* in administrative matters is supported, apart from Mandrou's statement cited above, by Alfred Cobban who compares the French administrative giant with Gulliver being "pinned down by innumerable minuscule claims and customs" serving as the Lilliputians (cf. 1957: 216). Furthermore, G. Durand speaks explicitly of the competition between the parallel hierarchies of *officiers* and *commissaires* (and thirdly, of the *fermiers généraux*) (cf. 1969: 108ff., 139). A more favorable evaluation of the *intendants'* power and effectiveness is given, for instance, by Hubert Méthivier (1966: 88, 114ff.) or on a regional level by Henri Fréville (1953). But even Fréville notes that it is

A second line of argument focuses upon the consideration of the *commissaires* as part of the central government. For it is the positive evaluation of the *intendants* and their actual power which implies that the government deliberately aimed at a sort of bureaucratic absolutism: *commissaires* deciding in the center and executing in the provinces, either against or via the *officiers*. A closer look into the administrative elite is yet necessary if we want to draw the balance between *officiers* and *commissaires* (see Table 7–1).

In theory the central government in France before 1789 had a conciliar structure, the old *conseil d'état* having specialized into several councils: (1) the *conseil d'en haut* or *conseil d'état*, in fact the cabinet deciding on principles of policy, foreign affairs, war and peace, with the king and his ministers present only; (2) the *conseil des finances* under the comptroller-general; (3) the *conseil des dépêches* with competence for most internal affairs besides finances; (4) the *conseil privé* (or *conseil des parties*) under the chancellor in charge of judicial administration. Sometimes it is right to speak of a *conseil d'état privé finances et direction* comprising both the *conseil privé* and a second or subcouncil for financial administration. In addition we may find a *conseil de commerce*. Most of these councils had their own commissions and bureaus where the councillors of state and the *maîtres des requêtes* served who were involved in a host of daily details requiring decision, mainly in terms of legal judgments (Holtzmann 1910: 331ff.; Treasure 1966: 285ff.; Antoine 1970; Bosher 1970: 26ff). In practice this conciliar structure of government was rather confused, due to overlapping, and slow; though adhering to the principle that all decisions be made by the king-in-council, this principle became more and more fictitious and the councils were dominated or bypassed by the secretaries of state and their departments.

The secretaries of state headed the four classic departments (foreign affairs, war, navy, royal household; sometimes a fifth for commerce). In addition each secretary of state was in charge of specific matters (such as the clergy or the lottery) which were more or less

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mainly the newly-developed fields of activity like promotion of the economy and public welfare where the *intendants* are predominant (Fréville 1953: vol. 3, 337). Unfortunately, Gruder (Gruder 1968) carries her book on the provincial *intendants* precisely to the point only, wherefrom the career of an *intendant* would start after his recruitment and training. We are therefore left in the dark as to what this administrative and social elite did achieve in terms of penetration and integration.

TABLE 7–1. TOP-LEVEL ADMINISTRATIVE PERSONNEL IN FRANCE AND PRUSSIA

	France, 1780 (Population 25,000,000)			Prussia, 1805 (Population 9,000,000)	
	Central Level	*Regional Level*	*Provincial Level*	*Central Level*	*Provincial Level*
Finance	*Cour des monnaies* : 70	*Chambres des comptes* : 830 *Cours des aides* : 280	Treasurers, Receivers, Payers : 1200		*War and Domains Chambers* Presidents : 23 Vice Presidents, Directors : 65 Councillors, Assessors : 480 *Districts* Landräte : 210 Steuerräte : 90
Judiciary	*Councils* Secretaries of State Councillors of State : 40 Maîtres des Requêtes : 80 *Grand Conseil* : 80	*Departments* Secretaries of State : 6 Intendants of Finance : 10 Premiers Commis : 40 *Parlements* : 1675	*Généralités* Intendants : 30 Subdelegates *Présidiaux* : 1770	Ministers : 12 Presidents, Directors : 15 Councillors : 180 Privy Secretaries : 110	*Regierungen* Presidents : 27 Vice Presidents, Directors : 27 Councillors, Assessors : 480

Sources: *Almanach Royal*, 1777; Dahamel, *Etat de la magistrature en France*, 1789; Bosher 1970; *Handbuch über den Königlich Preussischen Hof und Staat für das Jahr 1805*.

related to his main *portefeuille*; second, the provinces and *généralités* were part of the competences of certain departments. This departmental organization on both topical and territorial lines, which is to be found in the Prussian General Directory as well, made it necessary that bureaus were set up within the departments in order to deal with various matters. The largest single department, though not headed by a secretary of state, seems to have been the *contrôle général des finances* under the comptroller-general. In the late eighteenth century, we find some 65 bureaus in this administrative branch. It is these bureaus, headed by *premiers commis* or *chefs*, which eventually outweighed the councils in the decision-making process: many matters had already been dealt with thoroughly when the head of the department put them before the council or directly to the king (Bosher 1970: 47ff.; cf. Cobban 1957: 216ff.).

So far there seems to emerge a picture of the central bureaucracy as powerful machinery for imposing a central will. Two qualifications are yet in order. One relates to the field of actual execution where the departments heavily relied upon the various corps of *officiers*. To take but the prominent example of financial administration: in 1788, of the some sixty-five bureaus of the department thirty-eight had the task "to prepare business for a certain agency or for a certain corps of accountants, and to see that the business was done, much as a customer of a bank or trust company might see to the business he left in their hands" (Bosher 1970: 49). It is only in the fields of public works, trade and industry, health and welfare where the remaining twenty-five bureaus of the department of finances might exercise a more independent will and effective control. This state of affairs corresponds very closely to what has been said about the *intendants* in the *généralités* and their relationship to the network of *officiers*.

The crucial question of *commissaires* vs. *officiers* is yet to be followed not only in the field of executing a decided-upon policy, but also in the very center of the government, and brings up then the qualification of the picture of a powerful central bureaucracy. If we view the whole range of upper-rank personnel as an administrative elite, we may ask about its place in French society and especially within the world of *la robe*. Questions of recruitment and training provide an approach to the social composition of the leading administrators whose hierarchy from top to bottom ran as follows: (1) secretaries of state, regular members of the *conseil d'en haut* and other

councils, heads of departments; (2) councillors of state, regular members of the decision boards of the councils other than *conseil d'en haut*; (3) *intendants* of finances; (4) provincial *intendants*, heads of the *généralités*; (5) *maîtres des requêtes*, actual reporters on current issues by inquiring and suggesting, and thereby regular members of the councils via their commissions and bureaus (Gruder 1968: 52ff.). These five categories comprise the administrative elite of the *Ancien Régime*: probably less than two hundred in number and hence a comparatively small group if compared with the thousands of members of the high *magistrature*. The *maîtres des requêtes* who formed the level of entry into the administrative elite clearly deserve our special interest, particularly since nearly all provincial *intendants* formerly practiced this profession. The question of recruitment and training thus has to concentrate on these eighty officers.

After all, it is perhaps not astonishing that the rule of *la robe* dominated this realm. First, it was a legal prerequisite for any *maître des requêtes* to serve several years as a magistrate in a court. This meant the *maîtres des requêtes* (and, consequently, all upper officers including *intendants*) "were judicially trained officers. They were men who had gone through the legal training of the day. This was exceedingly formalistic and could not be said to prepare young men for an administrative career" (Finer 1932: 1233). This disadvantage, however, may have been counterbalanced by the subsequent training-on-the-job which involved the *maîtres des requêtes* with "tax disputes, printing regulations, military supplies, royal domain lands, finances of Paris guilds, religious establishments, or commercial companies, or feudal tolls and proofs of nobility." This "variety of concrete administrative and judicial work" provided a training ground sufficiently related to reality for the prospective *intendants* (Gruder 1968: 79).

The domination of *la robe* in the field of *maîtres des requêtes* was not only a matter of common professional education, but also, and perhaps less understandably, of common recruitment. These two traits are closely connected with each other, and the legal prerequisite of serving some time as magistrate at a court before becoming *maître des requêtes* indicates the background of recruitment. The crucial link, however, between the *officiers de la robe* and the prospective *commissaires* was the simple fact that even the offices of *maîtres des requêtes* were open to venality. The same holds true for

the *intendants* of finances in the respective department and the Commissioners for War with the army. In practice this amounted to a highly co-optative recruitment policy including those dynastical elements which we found characteristic of the *noblesse de robe* or the sovereign courts.

In fact the arguments in favor of counting the administrative elite of the *Ancien Régime* as part of the *noblesse de robe* are overwhelming. Thus the crucial question of the relationship between *officiers* and *commissaires* with regard to a loyal and efficient administration comes up again. Are we entitled to conclude that common social origins meant fairly identical interests as a group? Or should we think of differing interests according to distinct functions? Clearly the bulk of the magistrates were of low status compared to the *commissaires*. Consequently, the careers outside the sovereign courts from *maîtres des requêtes* upward must have been of considerable attractiveness to magistrates who might feel it worthwhile to separate from their former colleagues. The extent to which this division of functions, power, and perhaps interests developed is still open to debate. The rather short periods of officeholding of the *intendants* may indicate a certain amount of preventive mistrust on the part of the king, who could not but take the high *magistrature* as the "pépinière des serviteurs de l'Etat" (Bluche 1966a: 11). In fact the *maîtres des requêtes, intendants* and secretaries of state formed a governing elite socially embedded within the *noblesse de robe* and constituting a tiny top layer, the *noblesse d'Etat.*[20]

Is there any sense, then, in applying the concept of *officiers* vs. *commissaires* to the history of the French *Ancien Régime*? Perhaps one can argue that French absolutism in the end did not succeed in building up an instrumental bureaucracy either by incorporating the world of *la robe* or by superseding it. The *intendants* and their colleagues of the governing elite "never acquired the social weight necessary" (Mandrou 1967: 220). On the other hand, French absolutism went far enough to give the world of *la robe* ample justification for opposition. Besides the well-known attack against the *parlements* by Maupeou one has to think of contemporary reforms in the finan-

[20] Cf. Gruder 1968: especially part II: "The Royal Intendants as a Social Elite: Their Family Origins and Social Evolution," 97ff.; Bluche 1959: 8ff. Mousnier speaks of the *magistrature* and of the *robe du conseil* as of a single social group which was divided into two distinct political groups opposing each other. What this division precisely meant in terms of political power and achievements has not been determined yet. Cf. Mousnier 1970: 331.

cial administration by Necker and others: the number of accountants among the corps of *officiers* became reduced, and, more important, the offices of the *intendants* of finances were abolished. Thus the ministers of finances could not only continue to bypass the councils but initiated a "bureaucratic revolution" which meant "removing the independent, venal magistrates in favor of dependent, salaried administrators," the *premiers commis* of the bureaus (Bosher 1970: 307). However, it was only the French Revolution which, developing to a great extent out of the struggles over administrative reforms, finally paved the way for the establishment of a modern bureaucracy solely relying on the career service of *fonctionnaires*. On the famous night of August 4, 1789, the National Constituent Assembly abolished once and for all the venality of offices, thereby exposing the recruitment and training of officials to the specific problems of parliamentarianism. In Prussia, which saw the victory of the *commissaires*, we have consequently no revolution, but rather bureaucratic autocracy and a slow progression to constitutionalism (Finer 1932: 1241f.).

As our concern is primarily with state-building, it is not possible to give more than a very brief outlook over the recruitment and training of civil servants in France during the post-Revolutionary time of the nineteenth century. The Declaration of Rights of 1791 stated that no "other distinction than that of their virtues and their talents" should decide upon admission of candidates to all public offices (Finer 1932: 1248). The principle seemed to call for application of a merit system and for open competition. The practice, however, showed another picture, The quick succession of republics, consulates, empires, and kingdoms made develop a recruitment policy of high officials based on systematic favoritism or political patronage up to the end of the nineteenth century (Sharp 1935: 102; Finer 1932: 1249). The best case in point is given by Richardson's monograph on the French Prefectoral Corps 1814–1830 (N. Richardson 1966). Political patronage, however, has been no special French experience (like the venality of offices). In general, "the first effect of the development of parliamentarianism was the demoralization of the civil service, and one of the most perplexing and troublesome problems of democratic government has been to secure a public service owing allegiance not to the politicians, nor to any narrow segment of the public, but to the whole" (Mosher, Kingsley and Stahl 1950: 6; cf. F. Mosher 1968).

Taking this general feature into consideration we should add that any merit system does not preclude, as the contrast of Prussia to France might suggest, political patronage on the lines of checks on open competition by co-optative recruitment policy. A merit system is not even necessarily geared to the needs of the state as the example of nineteenth-century China can demonstrate (Van Riper 1958: 8). The concept, however, underlying the application of a merit system as a basic principle of any recruitment of personnel deserves our attention, since it may be designated as that of the (learned and specialized) *fonctionnaire* in contrast to the *officier* as well as the *commissaire*. The *fonctionnaire* undergoes a training and passes examinations before he takes over a rather narrow and often purely technical (as opposite to political) profession. Socially there is no obvious difference between *commissaire* and *fonctionnaire*, and one may say that the Prussian *commissaires* were in fact *fonctionnaires* combining the merit system (introduced remarkably early) of the concept of *fonctionnaire* with the restrictive recruitment policy of elites (whether *commissaires* or *officiers*). The leading officials of France of the nineteenth century show, apart from political patronage, a similar combination, being in fact a meritocracy, i.e., the old administrative elite by virtue of formally tested merit via the *grandes écoles* (Vaughan 1969: 74ff.).[21]

On the other hand, the *fonctionnaire* can be traced back into the eighteenth and even seventeenth centuries. In the fields of science, technology, certain military services, and public works we shall find this kind of technical personnel which will be dealt with separately.

PRUSSIA

The common opinion among scholars is that Prussia's state-building was accomplished under the reign of four successive Hohenzollern kings (1640–1786), three of these being of outstanding caliber and ingenuity. There is also consensus, though perhaps to a lesser degree, that bureaucracy became the means of all means (Schmoller) for this accomplishment and has thoroughly affected the course of Prussian and German history since the seventeenth century, not only in its political, but also in its social and even economic dimensions. Speaking of the emergence of the modern Prussian state, therefore, is almost identical with a study of its bureaucracy, which formed a

[21] Reinhard speaks of the *élite de fonction* governing France in the nineteenth century, cf. Reinhard 1956: 5ff.

functional and social body of personnel of the utmost importance. In a general manner, this state of affairs is clearly indicated by the attractiveness of civil service for elites as well as by the content or meaning of the political science of the time. According to Herman Finer;

> in 1688 when the Great Elector died, his legacy was an army and a Civil Service; in 1688 when William of Orange ascended the English throne the English reward of a half-century's efforts was a sovereign Parliament. Thenceforward the cleverest young men in England passed (or did not pass) from the universities to the political parties and the House of Commons, while the clever young German . . . passed through grade after grade of actual and diverse administrative service, to become a statesman . . . Political science in England . . . concerned itself principally with the question of political liberty and obligation. In Germany Cameralism, or the Art and Science of Government by Administrative Departments (Kammer), attracted the best minds of the seventeenth and eighteenth centuries (Finer 1932: 1184).

Constitutional history provides the context for the rising bureaucracy and its importance. Broadly speaking, we follow the sequence of rule of Estates (*Ständestaat*), then the absolutism of the king, in the Prussian case to be superseded by the quasi-absolutism (or autocracy) of the bureaucracy which, in turn, clashes with the forces of liberalism and, later on, socialism (Rosenberg 1958: 18f.). As far as the state-building period (and thereby the birth of bureaucrats as royal servants) is concerned, we may speak of the struggle between the old rule of traditional law, serving the interests of the Estates and the territorial provinces, as against the *Polizeistaat* imposing public law, i.e., administrative law, over and besides the existing units in order to create a centralized monarchy and, above all, to increase the revenue. In this connection it is often stated that the primary factor, in the context of the international military scene, was the decision of the Great Elector to keep a standing army which he could afford only by sharply raising the revenue. At the same time, however, it can be argued that there was no real external need for a Prussian army, but that for internal reasons it made sense to establish a standing army as a relatively cheap instrument for administering an underdeveloped country. Be this as it may be, we are

concerned rather with the social implications of the decision for bureaucratization which can be seen right from its beginning. For in the struggle between traditional and public law the emerging *Polizeistaat* had its spearhead, as far as its personnel is concerned, in the commissars (Hintze 1962: 246f.; cf. Rosenberg 1958: 15). Thus the development from the rule of Estates toward absolute monarchy can be described, as in the case of France, by the dichotomy of *officiers* vs. *commissaires*, or, in terms of institutions, by the gradual reduction of the old *Regierungen* to purely judicial matters in favor of the gradual expansion of the War and Domains Chambers (*Kammern* and *Kommissariaten*) in size and tasks. The office of commissar was in existence even before 1640 and was military in origin. The commissar was in charge of affairs of the Quartermaster-General's Department, in fact his first duties being to observe the king's interests with the hired generals of mercenary armies. When the standing army was established, none else was better qualified for purposes of military administration including food supply, logistics, payment, than the commissar. Thus he soon became the main executive in the administration of taxation which by itself was closely connected with the maintenance of a standing army (Isaacsohn 1874–1884: vol. II, 158ff.; Hintze 1962).

The military bureaucrats, the focus of the growing Prussian bureaucracy, easily led to the much discussed militarization of the bureaucracy. Before we come to this point, however, it seems necessary to describe the bureaucracy as a functional (as distinct from a social) group, to ask for numbers, role specification, tasks to be performed, qualifications prescribed, and training facilities. Clearly, there is no distinct line between these questions and the study of bureaucrats as a social group, including recruitment policy, the impact of military personnel both on role behavior and on numerical oversupply, the implications of the merit system, and the like.

At the beginning of any consideration of the bureaucracy as a functional group, there should be a short outline of the history of the institutions. Dorn, who gives a good description of the Prussian bureaucracy from a functional point of view, centers on the reign of Frederick II, but speaks of 1723–1740 as the classic period of the main central administrative institution, the General Directory (Dorn 1931).[22] In order to get an organizational scheme it has always been

[22] For the earlier history of the institutions, compare Carsten 1958: 253ff.

convenient to take this period and follow the levels from above to below. The General Directory breaks down into four departments, organized on territorial (and only in addition on topical) grounds and headed by a minister who is assisted by two to five finance councillors (*Finanzräte*). The General Directory, however, could hardly satisfy the king's assumptions of efficient work. It was bypassed by the cabinet, the personal counsellors of the king, and finally saw itself broken down by the establishment of new departments in charge of special subjects without provincial or territorial limitations. This development reached its climax when the administration of taxes, especially the excise, being the nucleus of the commissars' bureaucracy, was cut out of the competence of the General Directory and given to the *Régie* under a completely independent staff which consisted of Frenchmen in the higher ranks at the central and provincial levels (Schultze 1888).

In these circumstances it is perhaps right to consider the provincial and local bodies of the War and Domains Administration, the more important ones. The War and Domains Chambers (*Kriegs- und Domänenkammern*) consisted of one president, two directors, and fifteen to twenty councillors (*Kriegs- und Domänenräte*) as regular members, not to speak of the forty to fifty subordinate officials of the clerical staff (Dorn 1931: no. 47, 86). The two directors indicate the earlier history (before 1723) when there were two separate bodies, the Domains Chamber, in charge of all affairs of the royal domains and forests, and the War Commissariat, in charge of contributions, levying of taxes, military and police matters. Under Frederick II we find seventeen War and Domains Chambers in the Prussian provinces. This organizational pattern lasted, changing names and range of activity notwithstanding, until the end of Prussia in 1945, the Chambers after 1806 being succeeded by the District Governments (*Regierungen*). Thus it is understandable that the Chamber presidents were of high rank in the hierarchy and second only to the ministers. Frederick II even bypassed the General Directory in dealing with the Chambers, the presidents of which, according to Dorn, even "surpassed their ministerial chiefs in actual influence and authority" (Dorn 1931: no. 47, 84).

Finally, we reach the local level of administration which is especially important if one thinks of the difficulties of effectively executing a system still newly imposed and not yet settled. If we do not take the "classic period" for our cross-sectional description of the

existing administration but rather follow the course of historical development, we are, therefore, not astonished to find the *Steuerrat* in the towns and the *Landrat* in the country gradually overtaking power long before the whole administrative pyramid was completed and well organized. Indeed, there is much to be said for the view that the Prussian bureaucracy was established from the local level to the national level. This statement is only another way of saying that the commissar was the leading figure in the "new bureaucracy."

Within the preabsolutist state the cities formed an estate as well as the landed aristocracy, but the efficiency of the traditional self-government was of a poor quality, if not really obsolete. Therefore, the levy and administration of the excise which was originally run by city executives was soon taken over by the royal tax commissar who first controlled and then headed the tax collection and administration. Thereby he became the actual governing director of the cities which completely lost their self-government not to be regained until 1808. An ordinance of 1684 describes the function and competence of the *Steuerrat*: he decides upon claims and complaints which were not apt for regular judicial procedure at the courts; he controls food prices, inspects weights and measures, revises the excises rates, intervenes in quarrels between city officials and others, reports on heavy defraudment and irregularity, and executes the decisions taken by the Commissariats (Isaacsohn 1874–1884: vol. II, 187ff.). Besides the controlling and preventive duties he had to look after the welfare of the cities and to safeguard their well being, e.g., building of houses, security against fire, regulation of streets and rivers. He was even in charge of promoting commerce and the trades, e.g., by opening new markets. This wide range of tasks required a fairly large staff of personnel for assistance, partly clerical like cashiers, accountants, writers; partly executives like tax-collectors, controllers at the cities' gates (*Torschreiber*); and the various *Ausreuter*, a police-like personnel to control mills, breweries, mints, and the like.

If we overlook all that is known about the *Steuerrat* activities it seems clearly right to consider him, in accordance with Schmoller, as the perhaps most important official in the new bureaucracy (Isaacsohn 1874–1884: vol. II, 189). This may be indicated by the fact that the *Commissarius loci* (*Steuerrat*) is not a local official in the proper sense of the term. In fact, he headed a taxation district which comprised, on the average, two country districts (each under a *Landrat*)

and had therefore to control up to ten or twelve cities. This meant he had to tour those cities twice a year; the actual administration being run by the mayor and the magistrate who anxiously tried to keep the *Steuerrat* in a good frame of mind. The *Steuerrat* reported from his tours of inspection directly to the General Directory and was entitled to consider himself a member of the Provincial War and Domains Chamber, the session of which he attended when he was present. Having his local clerical and executive staff in every city of his district besides himself, the *Steuerrat* had a few assistants for special tasks, i.e., surveyors of construction activities (*Bau-Inspektoren*) and inspectors of trades and industry (*Fabrik-Inspektoren, Kommissarien*), the latter being in charge of keeping up the existing regulations in various trades, the proper distribution of masters and journeymen, and of reporting on the state of affairs for statistical purposes.

As far as the so-called *Polizeistaat* (in the sense of the mercantilistic-cameralistic period) is concerned, it is the cities where we find it best established; here the degree of penetration for the sake of mobilizing resources is higher than in the countryside. The difference in the degree of penetration between cities and countryside can be exemplified by comparing the *Landrat* with the *Steuerrat.* The *Landrat* was the director of the district assemblies of the Estates (*Kreis-Direktor*) in pre-absolutist days; he was chosen as district- or land-commissar in order to protect the rights of the taxpayer against the colonels of the mercenary armies. When the standing army was established he gradually shifted towards a semi-royal servant, being in charge of commissary affairs like military conscription enforcement, Quartermaster General's business, distribution as well as collection of imposed taxes, services, etc., and control of law enforcement.[23] For these functions he was aided by a staff of administrative and executive personnel, similar to that of the *Steuerrat.* But he never gave up his connections with the landed squirearchy of which he remained the first among equals. Thus he remained a mixture between royal servant and Estates' representative, which was already indicated by his coming into office: he is the only official within the Prussian bureaucracy for whom the principle of indigenous origin, otherwise deliberately denied, was constantly applied, even during the nineteenth century (Bleek 1972: 121f.). The King of Prussia did not more than

[23] Cf. the Instruction for the *Landräte* in the Electorate of Brandenburg (1766) in Gelpke 1902: 91ff.

approve a list of candidates out of which the *Landrat* was elected by the nobility. This bore consequences for his ranking within the hierarchy. In theory, he was supposed to attend the meetings of the War and Domains Chambers whenever present, like the *Steuerrat*; though this could not be the case very often, he ranked directly behind the Chamber presidents, that is, before the War and Domains councillors including the *Steuerrat* (Isaacsohn 1874–1884: vol. II, 176ff.; vol. III, 169f., 271).

We can extend this reasoning on ranking. Since the Chamber presidents ranked behind the ministers (and before the finance councillors in the General Directory), and since the *Landräte* ranked behind the Chamber presidents (and before the War and Domains councillors in the Chambers), we may speak of the pervasive prestige laid upon the respective top officials on central, provincial, and local levels. As we will see later on, it is just these top officials, mainly of noble birth, who made it nearly impossible either to alter this ranking order or to open it for nonnobles. From the point of view of ranking order, it is interesting to note that the standing of the *Steuerrat* was below the *Landrat*, though the former was functionally of the same level. Perhaps it is permissible to consider the higher grading of the *Landrat* (and the Chamber presidents) as a social consolation prize to the nobility for making peace with the growing *Polizeistaat*. For it is the mercantilistic policy of this state which, considering the rise in productivity and commerce in order to enlarge the taxable national income (or consumption), as well as the amount of customs to be collected from foreign trade, placed the main burden of tasks to be performed on the *Steuerrat* and the War and Domains councillors. This opinion seems to be confirmed when it is learned that work as a *Steuerrat* was regarded as the training ground for the best Prussian officials of the eighteenth century (Finer 1932: 1195, according to Schmoller; cf. Isaacsohn 1874–1884: vol. III, 269). Obviously this kind of work was functionally too important to be performed by personnel recruited otherwise than by merit, regardless of the social prestige or the personal income connected with the office. If this is true, there should have been provisions for recruitment and training of civil servants in order to find the most capable individuals for the many offices to be filled, which we have to reckon in dozens in the 1660s, but in hundreds in the 1740s (Rosenberg 1958: 60).[24]

[24] The figures for 1805 are given in Table 7–1 on page 504 and have been

This leads to the question of an emerging merit system, and Prussia has been acclaimed as being the first country in modern European history to have elaborated and applied such a system with regard to its civil service. According to Fritz Morstein Marx,

> Three outstanding facts have greatly contributed to the success of Prussian personnel policies. First, the rules of recruitment for the public service were laid down in concise terms, and the king himself looked to it that they were strictly applied. When the first president of the United States was born, the system of entrance examinations for administrative positions had already proved its usefulness in Prussia. Second, the higher civil service were never exempt from those principles. In fact, the first regulations dealing with qualifications for public office were primarily written for the leading class of professional administrators . . . And, third the establishment of the merit system as a universal rule, which was not to be broken up by arbitrary exceptions, operated as a means of democratization insofar as the requirement of any specific intellectual or vocational qualification for officeholding always imposes a powerful check on nepotism and class or party patronage (Morstein Marx 1935: 174f.).

The third point mentioned by Fritz Morstein Marx has to be modified when the bureaucracy is viewed as a social group. Before doing so, however, we should point out the functional aspects of the recruitment policy, i.e., the introduction and standardization of the merit system. The main road to administrative skill and upper ranks in the hierarchy was a long period of in-service training. This holds true even for the judiciary where the Berlin *Kammergericht* served as a training center for top level executives in the time of the Great Elector (Rosenberg 1958: 58). But it is the judiciary which, of course, first established the requirement that legal training was to be obtained at a university. The so-called hired doctors were the first academically trained personnel to serve in the emerging *Beamtenstaat*. Successive instructions by the Hohenzollern kings since the late seventeenth century, asked for legal training of the judicial civil servants. By 1775, every candidate had to pass two examinations:

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drawn from the *Handbuch über den Königlich Preussischen Hof und Staat für das Jahr 1805*. On the basis of the same source figures for the nineteenth century are provided by Koselleck 1967: 689.

one at the university, the other at the State Examination Board (*Ober-Examinationskommission*) (Friedrich 1939: 139f.; Finer 1932: 1198ff.). Between those two examinations there was a period of unpaid in-service training at the courts extending over several years.

The judicial top-level officials, i.e., the academically trained ones, had their main field of activity in the Privy Council and the provincial *Regierungen*.[25] These institutions, which once had been part of the rule of Estates, had gradually lost power to the expanding competences of the General Directory and the War and Domains Chambers. Finally, the old Privy Council and the provincial *Regierungen* saw themselves confined to purely judicial matters, the *Regierungen* being in fact supreme courts of law in the various provinces. Interestingly to note, we find again some kind of social consolation insofar as the judicial councillors (*Regierungsräte*) "retained the flavor of superior social prestige until the remaking of Prussian institutions under the leadership of Stein and Hardenberg" (Rosenberg 1958: 119).

The judiciary could refer to an academic discipline older than the Prussian state. It is more interesting, therefore, to study the functional aspects of recruitment and training of the administrative personnel proper. For one thing, the stress on in-service training is understandable and perhaps quite natural in this realm. If one looks into the great instructions of the Prussian kings for the General Directory (1723 and 1748 respectively) or for the provincial chambers (Isaacsohn 1874–1884: vol. III, 120ff., 258ff.) it is clear to see that practical skills (or applied science), such as preliminary estimates of costs, drawing up of budgets, preparing reports on current issues, drafting memoranda on measures to be taken, and the like, were most highly regarded. Besides these skills, or perhaps as the necessary underlying psychological make-up of their servants, the kings asked for the severest sense of duty, obedience, vigilance, industry, and similar virtues. In turn, it was the War and Domains Chambers which "became the most vital centers of the entire bureaucratic mechanism. They were the classic workshops of the Prussian mercantilist state through which by the persistent drill of ever watchful officials the sluggish but infinitely malleable and educable inhabitants of the north German plain were galvanized into an active,

[25] A recent study of some privy councils in Protestant southern Germany of early absolutist time with special reference to the question of bourgeois vs. noble councillors is given by Gerd Wunder (Wunder 1971).

thrifty, and the most highly disciplined people of modern Europe" (Dorn 1931: no. 47, 83).

Besides the socializing impact of the bureaucracy on society there was, no doubt, a fairly high social mobility within the bureaucracy, owing to the implications of the stress on in-service training. This mobility, however, though unmatched in degree until at least the early twentieth century (Rosenberg 1958: 67), was bound to decline at the very moment when the mercantilistic state established its theory and practices as a distinct academic discipline to be learned at universities. Whatever the sinister preference of nobles for high office may have been, the very academization of service training by itself at the same time democratized, at least in theory, the access to higher ranks and drew insurmountable borders between them and the lower ones. Thus the introduction of academic training for administrative personnel is closely connected with the growing dichotomy between higher and subordinate officials.

The political philosophy of the German mercantilistic state was cameralism, and it was Frederick William I who established, in 1727, the first two chairs in this field at Prussian universities (Halle and Frankfurt/Oder). Gradually, some attendance of classes in cameralism (i.e., economics of the *Polizeistaat* and of private enterprise, especially agriculture, as well as some technology, statistics, and natural science) was required as desirable or prerequisite, until in 1770 a complete course, including the twofold examination pattern similar to the judicial training, was made obligatory (Friedrich 1939: 136ff.; Finer 1932: 1198ff.). The bifurcation, however, between higher and subordinate officials had started much earlier and can be seen in the history of the so-called *Auskultator* (or, later, *Referendar*) institution. Since the councillors in the various branches of the administration were limited in number by the personnel budget, it was usually a matter of waiting, for a long time, before a young candidate could expect to fill a vacancy. In the interim, he could work, as many people of lower social standing did to support themselves, as a subordinate official, and it has already been mentioned that there was "a golden age for select men of common origin," in the time of Frederick William I (Rosenberg 1958: 67; cf. Isaacsohn 1874–1884: vol III, 264, n. 1). But it is the same king who opened a second route of access to the councillor's career by appointing, in 1723, young people of good family standing, belonging to the propertied class, as *Auskultatoren* at the Chambers, i.e., as unpaid aides who would be as-

sisted by the councillors in preparing reports, and taught by them in the specific tasks of their field (Isaacsohn 1874–1884: vol. III, 122; cf. p. 264, n. 2). From a functional point of view, it is clear that it made a difference whether a future councillor got his in-service training by climbing up the hierarchy and thereby perhaps clinging too heavily to the narrow outlook of his former duties familiar to him, or whether he had the advantage, right from the beginning, of a bird's-eye view in looking at the interdependence of the various different tasks due to certain underlying principles. Quite naturally it is precisely this *Auskultator* who was expected, after 1727 and especially after 1770, to have gained his theoretical training at a university, in order to understand the cameralistic concept of state and its politico-practical implications, before he underwent his in-service training, at the end of which he had to pass his second examination. Even then he had eventually to wait for a vacancy before he was appointed as councillor.

The professionalization of government service personnel began in the judicial field and extended to the administrative one, and then led to the growing dichotomy between higher vs. subordinate officials. Though there is, since the eighteenth century, analogous standardization in the formal sense of the prescribed training for judicial and administrative civil servants, i.e., university attendance and in-service training, it is interesting to note that the contents of training were different. However, this status of a special political science to be studied by all applicants to higher posts in the administration did not remain the common feature of Prussian/German recruitment policy and gave way to the jurists' monopoly (*Assessorismus*) dominating the administration in the nineteenth and twentieth centuries (cf. Bleek 1972). Several causes contributed to this development: "Once the task of state-building had been accomplished . . . the struggle for legalizing or constitutionalizing these great administrative mechanisms had begun (Friedrich 1939: 132; cf. Finer 1932: 1252ff.). In the era of economic *laissez faire*, state officials were supposed to be executors of the law rather than managers of the political economy; and a bourgeois-capitalist society was interested to check bureaucratic autocracy by imposing legal restraints upon an arbitrary officialdom. Consequently, cameralism was gradually replaced by legal studies which by 1846 were established as the main and obligatory prerequisite of theoretical training for all higher civil servants. Even with regard to the following in-service training (*Referen-*

dariat), practice in the law courts became the chief preparation for the second examination which opened up for councillorship and the like. Thus we see, in the nineteenth century, the withdrawal of the state from positive economic and social activity and the reduction of the social sciences from an applied science to a literary history of theories (Finer 1932: 1254). It was not until the effects of industrialized economy on society became felt that there arose a debate on the advisability of a purely legal training of the higher officials. From 1879 onward there is to be seen a gradual reintroduction of political science and administrative in-service training into the curriculum of a would-be councillor, but legal studies remained the chief subject (Finer 1932: 1256ff.).

So far we have dealt only with the higher officials. The huge bulk of the civil service, however, belonged to lower ranks and performed subordinate tasks. The main feature in this rank is its use as an institution for maintaining ex-military personnel. The connection between administrative branches and the military via personnel recruitment has always been a close one, even apart from the claim for maintenance laid on the state by disabled soldiers. When the "new" bureaucracy of the Commissariats was established, there were, among others, military bureaucrats like *Regimentsquartiermeister* and *Auditeure* who eventually became *Steuerräte* and the like (Hintze 1964: 90, 103; Rosenberg 1958: 64). But the real impact of the military was felt in the lower ranks of clerical and executive jobs. Here we can speak of a militarization of the Prussian bureaucracy since the days of the Great Elector (Isaacsohn 1874–1884: vol. II, 176; Adam 1939: 886). However, it was Frederick William I and his son who, by extending the standing army to a hitherto unknown per capita ratio and by waging costly wars, greatly enlarged the problem of maintenance of ex-soldiers. Thus, the fundamental instructions for the General Directory, of 1723 and 1748 respectively, laid down the obligation to appoint by preference disabled noncommissioned officers and soldiers to jobs like city gates' comptroller (*Torschreiber*), inspector of mills (*Mühlenbereuter*), and the police-like *Ausreuter*, not to speak of elementary school teachers (Adam 1939: 888ff.). A very high official was in charge of supervising the enforcement of these regulations, i.e., the filling of vacancies, sometimes against the resistance of the affected offices. First, the general aide-de-camp, later on, the ministerial head of the sixth department in the General Directory (Isaacsohn 1874–1884: vol. III, 184, 257).

This militarily overloaded or one-sided recruitment policy of the Prussian bureaucracy, which eventually led even to the preference for military clergymen over civilian ones for appointment to lucrative tenures (Isaacsohn 1874–1884: vol. III, 346), had a profound impact on relationships between bureaucracy and society (cf. Isaacsohn 1874–1884: vol. III, 184f.), and was not to come to an end in the nineteenth century. On the contrary, the introduction of universal conscription (1814) logically raised the claims and problems of "civil maintenance" (*Zivilversorgung*). There was no enthusiasm on the side of the privates to serve longer than the three years requested and eventually to become a noncommissioned officer. To overcome this kind of shortage, king and government introduced an incentive in 1820 for all noncommissioned officers who served at least nine years (in 1874 changed to twelve years) with the army. This incentive was the right to claim preference for appointment to clerical and accounting jobs in the civil service (Adam 1939: 895). From this time onward we find two kinds of ex-soldiers in the first line of the recruitment reservoir, the disabled ones and the noncommissioned officers with a *Zivilversorgungsschein.* And we find even elaborate provisions on how many of the posts of different subordinate rank levels should be filled with these preferred people. No doubt, the noncommissioned officership served as a means of social mobility in the nineteenth century (Hintze 1964: 105), whatever the limiting effect on open competition might have been.

The low requirements of formal education for subordinate officials correspond to those for subordinate military personnel. Noncommissioned officers who applied for admission to civil service were asked only for writing and accounting abilities (Adam 1939: 895). If, on the other side, there was a strong emphasis on professional training for higher civil servants, one can ask how higher military servants, i.e., officers, were recruited and trained. The overwhelming representation of nobles in the officers' corps is too well known to be elaborated on again. From a functional point of view, which interests us at the moment, it can be said perhaps that family tradition served as a kind of substitute training institution providing for homogeneity and *esprit de corps* which, in turn, made up much of the officers' required virtues. An education on rather general lines was offered the future officers at the various *Kadettenanstalten* and, for a minority, at the Berlin military academy (von Poten 1896: 32f, 56ff.). More scholarly or scientific training was only required of officers in the

artillery and engineers corps who were more frequently of bourgeois origin and generally regarded of lower standing (Demeter 1962: 71). We shall consider them within the realm of technical personnel and its training.

Thus it was not until 1808 that "knowledge and education" were labeled as the main prerequisites for appointment to an officership in peacetime. What this precisely meant was soon clarified when the simultaneously reorganized general educational system established the *Gymnasium's* upper forms' maturity as equivalent to the privilege of only one year military service, including the appointment to reserve officership. This *Einjährig-Freiwilligen-Privileg* had to be matched in educational level by the regular noble officers' training if they wanted to check or to slow down the access to officership by bourgeois candidates. To be sure, there were special military schools, according to the regulation of 1810, which offered elementary and advanced education, outside the general public system, as a prerequisite for attendance of the purely professional officers' school (*Kriegsschule*) (von Poten 1896: 152f.). But on the one hand, this meant that the noble gentlemen had to attend schools when they were almost too old for it (Demeter 1962: 76); on the other hand, it was precisely the by-passing of general secondary schools which enabled commoners of low social status to obtain ranks of officership. In order to hamper this development the then Prince William tried to introduce, in 1825 and again, in 1844, a common general educational preparation at a *Gymnasium*, with the sons of poor noblemen in the countryside provided with scholarships (Demeter 1962: 76ff.). This policy of protection of the noble class against the implications of an achievement-oriented recruitment policy finally won a partial success when William succeeded as king of Prussia and made it a deliberate practice that officers were not only appointed, according to law, by "knowledge and education," but also by special fulfillment of duties and sound military views ("*Gesinnung*") (Demeter 1962: 82ff.). However, this ambivalence is already to be found in the famous original regulation of 1808 which spoke of presence of mind, quick perception, punctuality and order, and decent behavior besides knowledge and education (von Poten 1896: 144; Demeter 1962: 76). And it was the commanding officer of the regiment who decided, after all, whether a candidate possessed the necessary qualifications for officership (Hintze 1964: 101; Rosenberg 1958: 217).

The preceding section has tried to delineate, at different levels of higher and subordinate ranks and for the judicial, administrative, and military personnel of the modern Prussian state, the bureaucracy as a functional group; and, with regard to its recruitment and training, the emergence of the merit system. But we could not avoid, here and there, considering the social causes or implications of the outlined features. Clearly, there is a close connection between the functional and social aspect of the Prussian bureaucracy, and we will try to develop a more coherent picture of it as a social group. This is, however, a vast field for scholarly work, and we have to confine ourselves to the questions related either to recruitment and training or, with regard to the emerging merit system, to the checks on open competition.

These checks on open competition within an established merit system can be studied either by pointing to the different forms of exceptions from the rule, such as patronage, nepotism, hereditary claim of offices, purchase of offices, and the like, or by centering on the different positions of certain social groups or classes in the competition process. One big exception to free and open competition has been mentioned already, though it was not confined to a social group proper: the preference of military over civilian personnel for recruitment into subordinate civil service ranks. The impact on socialization and role behavior is easily to be imagined, and may be realized if one thinks of Zuckmayer's *Hauptmann von Köpenick* where the people looking for jobs in a factory are asked for their military service rather than their occupational record.

A narrow study of the question of open competition, however, has to focus, for the sake of precision and sources available, on the high-level personnel. This, at once, brings in the much disputed question of nobles vs. nonnobles in the Prussian recruitment policy. With regard to the military some remarks on this subject have already been made. Indeed, it is true that noblemen were regarded by all royal Prussian state-builders as the material out of which officers were to be made. And even if there are no precise figures on the parental origin of Prussian officers as late as 1806, there can be no doubt that the overwhelming majority of them were of noble birth in the seventeenth and eighteenth centuries (Demeter 1962: 4; Rosenberg 1958: 70). This relationship changed during the Napoleonic wars and slowly worked in favor of a growing percentage of nonnoble officers

who in 1860 made up 35 percent (Demeter 1962: 26). The efforts of the old Prussian forces to strengthen the position of the nobility in the age of prescribed educational achievements for officership have been mentioned already. The most effective instrument, however, of controlling the officers' supply was the necessity for a candidate, who had passed all examinations, to get elected by the officers of the regiment he wanted to enter. This, in fact, was a device for a co-optative personnel policy which at the same time made the officers' corps relatively independent of government (i.e., bureaucratic) interference and maintained "the retention of Junker control over the officer class, through the officer over the new, free citizen soldiers, and thus over the bulk of civil society" (Rosenberg 1958: 217). Thus the democratization effect of the merit system, praised by Fritz Morstein Marx (Morstein Marx 1935: 175), turned out to be a tightening up of aristocratic *esprit de corps* (Rosenberg 1958: 217). And it was only the newly enlarged army of the reforms of the 1860s which eventually outstripped the nobility's physical ability to supply sufficient officers.

The top military personnel resisted most strongly the application of the merit system to recruitment and advancement and clung very tenaciously to the connection of birth and profession in its noble officers' corps. Peculiar though this may be for Prussian militarism, we have to ask for the nobility's position in those fields where professionalization began earlier and, perhaps, bore the *stigmata* of bourgeois values of efficiency and industry, namely in the judiciary and administration. As far as the judiciary is concerned, it has to be remembered that it was the stronghold of the Estates against the emerging absolutist dynasty in the seventeenth and early eighteenth centuries, making up the antagonism between traditional and public law, and between old and new bureaucracy (Rosenberg 1958: 53ff.; cf. Isaccsohn 1874–1884: vol. II, 354). The center of the retrieved but still existing power of the squirearchy, apart from the *Landräte*, at this time were the *Regierungen*, in the main supreme courts of law in the provinces. But even in judicial matters they had no monopoly since the very important administrative justice was carried out by the Chambers and Commissariats. The embitterment about losing political influence, the intragroup conflict between "learned bench" and "noble bench," the growing number of deserters to the winning side, and the eagerness of the king and the new bureaucracy to get the support of the highborn finally led, about the 1750s, to an ap-

peasement between old and new bureaucracy, an amalgamation of the two bureaucratic elites (Rosenberg 1958: 116ff.). On the one side this meant the conversion of judicial *officiers* into accountable and removable royal servants, mainly achieved by the judicial reforms of Cocceji (Rosenberg 1958: 129). The introduction of prescribed scholarly qualifications, already mentioned, was highly necessary in the light of the existing circumstances: legal amateurs here and there, nobles being devoted to military service rather than judicial matters, and *roturiers* purchasing their positions in order to make profit rather than find justice. In 1737 Cocceji established the rule that everyone had to pass examinations before appointment, even if he had already paid into the Recruitment Chest (*Rekrutenkasse*) (Rosenberg 1958: 129). Though venality of offices was not very common in Prussia, especially in comparison with France, its very existence in the realm of the judiciary indicates that the latter belonged to the old preabsolutist offices.

This state of affairs was abolished gradually and intentionally by the enforcement of the 1737 and 1755 regulations on training and appointment. But there remained the continuing "flavor of superior social prestige" of the highborn (Rosenberg 1958: 119) to whom, after the noblemen had made their peace with the absolutist state, especially Frederick II paid tribute in his appointments to the top officialdom (Rosenberg 1958: 162). According to Rosenberg, "the 'social' victory of the higher judiciary was more than a consolation prize for political defeat . . . it was also the gratifying symbol of the triumph . . . over the mind of the official parvenu elite" (Rosenberg 1958: 120). This can be demonstrated in the administrative realm where "the rising elite of commissioned officers managed to dilute the emerging 'merit system'" (Rosenberg 1958: 121). The social composition of this new bureaucracy (cf. Rosenberg 1958: 60ff.) varied over time, and it was in fact indigenous nobles who made up a major part of the Great Elector's service class. Thus it was not until Frederick I and Frederick William I that bourgeois jurists, businessmen, bureaucratic subalterns, military bureaucrats and ex-soldiers formed the bulk of the royal servants and eventually reached top positions. This "eventuality" was bound to decline when, on the one hand, the standardization of qualifications took place and led to the bifurcation of higher and subordinate officers and when, on the other hand, the inclination toward recruitment from the nobility grew in the second half of the eighteenth century. The final setup of

the 1770 regulations on high level civil service recruitment, in a formal sense the introduction of the merit system, had several counterbalancing social implications. The first was the marked independence of the bureaucracy as a corporation and exclusive group from royal arbitrary intervention in recruitment matters. Second, this newly gained independence led to a recruitment policy by co-optation rather than by competition. For it was not sufficient to pass the prescribed examinations and to undergo the long unpaid in-service training; the candidate who served under the personal observation of a president of a War and Domains Chamber (and, after 1806, of a *Regierung*) was only allowed to enter the training period and the second examination with the president's consent (Hintze 1964: 101). Thereby other than purely intellectual qualifications came into play: "the candidate was required to be 'friendly to the State'—that is to say, conservative, of family standing, a member of students' corps and a reserve officer, and as a rule a Protestant Evangelical" (Finer 1932: 1219; cf. Rosenberg 1958: 180, 212f.). Apart from these ascriptive criteria for the bulk of the higher civil servants, a fairly close connection between the nobility and the very high positions in the administrative hierarchy, such as presidents of the Chambers (Isaacsohn 1874–1884: vol. III, 137; Rosenberg 1958: 69) and, of course, the *Landräte*, existed. This overaverage representation of the nobility in the key positions of Prussian bureaucracy, whether old or new, eased the amalgamation of the two formerly distinct bureaucratic elites and caused the commoners in this distinguished group, once they had arrived, to have their enthusiasm for competition sharply decline (Rosenberg 1958: 121). The main device toward this direction was the ennoblement of the service elite, thus "welding together the old social rank order and the new service hierarchy" (Rosenberg 1958: 139).[26]

To sum up we may say that by sticking to a co-optative recruitment policy and by the "mental corruption" of the successful social climbers there came into being a bureaucratic elite which democratized aristocratic privileges to a certain degree, but which retained its rather exclusive status including the typical features of family connections, patronage, or political commitment. Not even the entrance to the lower level of this group was open to competition.

[26] As far as the excess representation of the nobility within the Prussian bureaucracy of the nineteenth century is concerned, compare Koselleck 1967: 68off. and Wegmann 1969: 32,110,158.

From the beginning, the high costs of secondary and university education, and especially of the unpaid in-service training, narrowed the social composition of the presumptive candidates to the upper middle class (Finer 1932: 1219). In addition there was the impact of the extramerit prerequisites for appointment and advancement. Thus we have to conclude that the Prussian nobility managed to retain its key position in society as a governing class by using the emerging merit system as a device for modernizing itself. This modernization meant replenishment of the group and the shift toward a likewise exclusive bureaucratic elite, a privileged professional status group similar to the officers' corps (cf. Rosenberg 1958: 211), monopolizing personnel policies as long as there were no mass problems of demand.

The checks on open competition due to social restrictions of an emerging merit system do not necessarily mean a reduction of the functional efficiency of the bureaucracy. However, they belong to the context of the sociopolitical role the bureaucracy could play, and, henceforth, make up a peculiar aspect of Prussian-German state- and nation-building. In the nineteenth century the bureaucracy emancipated itself, becoming the leading political force. As it attracted many an ambitious bourgeois, it contributed to the gradual development of a new upper class. Bismarck, however, made the bureaucracy an instrument at his command, without giving power to the liberal bourgeoisie which, after all, had now been accustomed to acquiesce in obedience, whether to a monarchial or bureaucratic or a chancellor's autocracy (von Borch 1954: 148).[27]

Technical Personnel

The administrative personnel hitherto considered may be labeled as part of the extractive forces of the modern state; indeed its major task has been to secure extractability, the means by which the state could accumulate power. Power was as yet achieved mainly in two ways: (1) building up strong armies or navies; and (2) developing the economy in order to increase the extractable resources. Both ways called for technical, as apart from administrative personnel, as a common general requirement of all countries notwithstanding their greatly differing approaches to solve this problem.

[27] On the impact of nineteenth-century political and social developments on the Prussian bureaucracy cf. Koselleck 1967; Gillis 1971.

To maintain the authority of the king against other contenders, outside and inside the territory, was the task of the army or the navy. Both needed technical personnel; and in the period of state-building in Western Europe, military techniques for the first time called for professionals to discharge this job: gunners and sailors secured not only the European predominance over the rest of the world (see Cipolla 1965), but decided about the rank of the great powers in Europe. To recruit and train men for artillery and the men-of-war was as crucial for the existence of the early modern European state as was the ability of finance power. It was the superiority of British seamanship and gunnery which led to the rise of the British Empire from the defeat of the Armada to Trafalgar, from Drake to Nelson; and it was the superiority of the French, and later the Prussian military techniques which determined control of the Continent.

To support armies and navies meant by necessity a strong and modernizing economy, whether achieved by innovative entrepreneurs or by state intervention or by both. In any case, there arose a great need for technical personnel such as engineers, mechanics, mill- and shipwrights, and the like. At the same time ways and means had to be found for sponsoring and applying science and technology, especially since the scientific revolution of the seventeenth century and the beginning of industrialization in eighteenth-century Britain set the stage of international competition for power. Again it has to be asked how Britain, France, and Prussia responded to this common challenge; and again the differences outlined below seem to fit into the general picture drawn so far.

BRITAIN

If Britain relied for the recruitment of administrative personnel on the society at large, the field for recruitment of technical experts was smaller and wider at the same time: smaller because in certain fields, like shipbuilding or powder making, some families enjoyed a quasi-monopoly, wider because the area of recruitment was not confined to England but extended to the European Continent. Basically, however, the same methods of recruitment and training were employed. Patronage prevailed too; but in this respect it often meant talent hunting and protection of talents. Protection often took the legal form of monopoly which was granted for specific productions or techniques. Since England in the fifteenth and sixteenth centuries was not a technically advanced country, the technical personnel in

many fields had to be attracted from the Continent. Fortification and ballistic experts from Italy, navigators from Italy, Spain, and Portugal, astronomers, chemists, and glassmakers from France, horticulturists, mill- and shipwrights, and dyers from Holland, printers and miners from Germany and Hungary, ironmongers from Sweden brought their skills to England between the fifteenth and early seventeenth centuries (for the following see among others Armytage 1965: 24; Nef 1934, Nef 1967). Whether they turned to England on their own initiative, whether they were attracted by good employment opportunities, or whether they were deliberately recruited, is not entirely clear. Peter Mathias asserts that the English state "did not set out energetically to attract foreign capital or foreign skills" (Mathias 1969: 33). It may well be that a little encouragement sufficed in most cases; but certainly in crucial fields deliberate action was taken to secure a particular person or skill. The Italian navigator Sebastian Cabot who had worked many years for Spain "was induced, in 1548, to transfer his allegiance, and the vast store of knowledge and experience he had acquired at the *Casa de Contratación*, to England," where he instructed navigators and produced charts and navigational instruments until his death in 1558 (Marcus 1961: 59). Five years earlier (1543), Henry VIII, pressed by financial difficulties which prevented the purchase of brass for guns from abroad, sent a French cannon-founder from the royal foundry to try the founding of iron cannon which succeeded. The English iron ordnance industry thus was created by deliberate actions of the monarch (Hall 1952: 10). Queen Elizabeth put the saltpeter industry in the hands of Dutchmen and paid one of them 500 pounds to teach two of her subjects to make saltpeter (Nef 1940: 89).

England never relied on foreign skills, however, for very long. The English people quickly absorbed the expertise of the foreign personnel, and within one or two generations often surpassed the country from which they had learned the skills. In the middle of the sixteenth century, England had still to look to Spain or France for pilots; in 1588 the English fleet already outsailed the Armada and fired more powerful guns; ten years later, just before the close of the century, Englishmen were the chief pilots of the Dutch fleets sailing to the East Indies (Marcus 1961: 99; see also Lewis 1959, Lewis 1961).

In metallurgy foreign tutelage lasted longer, and the French artillery remained ahead of the English since it used mathematical

methods more strictly, but English cannons soon were sold to the Continent. They were cheap because the English iron industry of the sixteenth and seventeenth centuries was in a few hands, was organized more effectively, and worked with greater units of production. Gunpowder and saltpeter too were produced by royal monopolists, but the government never tried to manage production itself. It relied on the entrepreneurial skill of experienced business families—the Evelyns for gunpowder, the Brownes for cannon—whom it protected legally. When the saltpeter men informed James I that they had difficulties in carrying out their commission because the control of ammunition was not in the hands of a person of high rank, he placed saltpeter commissioners and gunpowder patent under the patronage of the Earl of Worcester whose authority made the landowners more willing to allow the commissioners to search for the valuable earth (Nef 1940: 90–91). James at one occasion also came close to organizing a royal factory for alum making. A group of London merchants had failed to establish efficiently alum manufacturing in spite of a royal monopoly and the hiring of Italian and German skilled laborers; James then appointed three contractors who acted in the name of and with the finances of the king, but they failed too, and in 1615 the alum works were farmed out again to a group of London merchants (Nef 1940: 108–109).

Even in the all-important naval technology, England relied to a great extent on private business. During most of the Middle Ages, English kings hardly ever had possessed a fleet, only a few ships used to be "royal"; in wartime ships were recruited from the "Cinque Ports," which possessed ancient privileges for the duty of providing fifty-seven ships at the service of the king, and from the merchant marine. Though the first-known naval administrator was a cleric, already in 1420 a merchant of Southampton, collector of customs and subsidies of the city and mayor, was appointed to the post of "Keeper of the King's Ships." To make well-to-do merchants administrators of the navy soon became routine. "Besides greater business capacity such a man was useful to the government in that he was expected to advance money, or purchase stores, on his own credit when the crown finance was temporarily strained" (Oppenheim 1896: 3, 16). The Tudors, particularly Henry VIII and Elizabeth, built up the first "Royal Navy" with a greater number of royal vessels. Naval dockyards were developed at Portsmouth, Woolwich,

Deptford, and Erith to build and repair the king's ships. In 1546 the Navy Board was created to administrate under the lord admiral, the navy, and its dockyards. Of the five principal officers of this board,[28] three belonged to the category of administrative personnel (the treasurer, the comptroller, and the clerk of the ships), but two can be regarded as technical experts, the surveyor of ships and the master of the ordnance, though the boundaries were flexible. The first of these technical officers, William Winter, surveyor of ships since 1549 and master of the ordnance from 1557 to 1589, was a trained sea captain and merchant, competent in the technology as well as in the administration of ships (Marcus 1961: 4). In 1577 John Hawkins, son of a sea-faring merchant from Plymouth, a man with experience in many voyages, and son-in-law of his predecessor, was appointed treasurer of the navy. He introduced many improvements in the design of the ships. For seventeen years, in the most crucial period of English naval history, he had the main responsibility for the efficiency of the Royal Navy (Oppenheim 1896: 145).

But the most important technical experts in the long run were the shipwrights who actually built and repaired the ships and designed many themselves. A few families of royal shipwrights oligopolized these posts for more than a century. To this group belonged James Baker, shipwright to Henry VIII, and his son Matthew who laid down the first rules for exact measurement of the tonnage, but above all, the Petts: Peter Pett, chief shipwright of Elizabeth, was succeeded on his death in 1589 by his son Joseph and in 1600 by his younger son, Phineas, who had not only a Cambridge education, but also a solid training as a carpenter. Another son, Peter Pett Jr., built at least three royal ships. In 1631 Phineas became principal officer and commissioner for the navy. While he was still in office, his nephew, another Peter Pett, was appointed to the Navy Board, and in 1649 the fourth Peter Pett, grandson of the first, son of the second, took his place at the Board (Oppenheim 1896: passim). Thus five men of three generations were in active service as technical officers for the navy. This certainly was patronage, but it also meant accumulated experience over generations.

Even more characteristic for the way in which technical expertise was used in modern England is the fact that all these shipwrights remained businessmen in their own right in spite of their paid jobs

[28] Originally six; but the office of Lieutenant of the Admiralty, soon lapsed.

as royal servants. Besides the royal dockyards they conducted private dockyards and undertook all kinds of commissions and undercommissions for the government. Such a system invited abuse, theft, and fraud, e.g., the use of materials and labor from royal dockyards for private purposes. When the early Stuarts put all Navy offices on sale, they were eagerly sought because of the great profit one could make out of them.

Shortly before 1660, however, the office of a royal shipwright and the conduct of private business were declared incompatible. The royal shipwrights were forbidden to indulge in private business. In compensation their salaries were raised. The new rule seems to have been enforced, since we know one instance in which the appointment of a master shipwright was postponed until he had promised to dispose of his private yard (Ehrman 1953: 103–105).

To pay full salaries to royal servants was by no means common at this time. Most of the leading officials had a basic annual salary connected with their office, but their main income was still derived from fees and similar devices, and the clerks fully depended either on fees or on a salary which the master paid out of his own income. Again the navy was among the first government agencies to abolish the system of pay by perquisites and to introduce payment by salary alone. In the summer of 1694, the Admiralty changed the system and made up the first list of officials on its payroll (Ehrman 1953: 562–563). Thus the navy's technical experts were the first royal servants to become full-time, salaried, professional officers. They also received their training inside the dockyards. In the later seventeenth century, a member of this group came closest to the modern notion of a civil servant. Their positions had become permanent much earlier. Already in 1548 three principal designers and master shipwrights were granted pensions of the Exchequer "in consideration of the long and good services, and that they should instruct others in their feats" (Oppenheim 1896: 73). All four principal shipwrights of Elizabeth held patents for lifetime, and one was active at the dockyards still in his eighties.

Other officers of the dockyard followed the shipwrights in securing their jobs for lifetime. In addition they were also the first group of royal servants who could count on a kind of career. Right from the beginning of the Navy Board, lower officials used to be appointed to higher offices on the Board when vacancies occurred.

When the first Treasurer by patent died in 1548, the surveyor of the ships became treasurer and was himself succeeded in his office by the son of the former treasurer; a few years later the master of the ordnance was promoted to lieutenant of the Admiralty. By the seventeenth century technical and clerical service in the Navy was something like a life career with frequent exchange between the dockyards and the Navy Board in London. Even the man who started as purser on a ship or clerk to a naval storekeeper could reasonably hope to make a career in the victualling part of the service rising from smaller to greater vessels and finally to a storekeeper himself. Again the shipwrights took the lead. A young man, apprenticed to a master shipwright at the dockyards could climb many steps on the ladder. When he had distinguished himself enough to become a foreman, his next step was to become a junior officer such as master caulker, master boat-builder, or master mastmaker in one of the yards. From there he might advance to assistant master shipwright and finally master shipwright. Usually along this way he would change his dockyard several times since there existed a hierarchy among the dockyards according to their importance. Even master shipwrights got promotion by transfer from one yard to another. The highest post a shipwright could ordinarily achieve was Resident Commissioner at one of the yards. He then represented the Navy Board at that particular yard; a few shipwrights rose to the position of surveyor of the navy, the top technical officer in royal naval service (Ehrman 1953: 107, 105). Daniel A. Baugh, in a thorough study of naval administration in the age of Walpole, regards the following career as typical for the administrative officers: captain's clerk (usually received through patronage); purser; clerk of the cheque and storekeeper at a port; clerk of the cheque at a naval dockyard; the same at a greater dockyard; commissioner of victualling; extra commissioner at the Navy Board (Baugh 1965: 44–47).

A consequence of the permanence and career possibilities in naval administration was its relative independence from political change and upheaval. To be sure, a strict division between politics and administration was not achieved until the reforms of the nineteenth century. But at the Navy Board, and even more at the dockyards, the personnel changed little throughout the years of revolution, civil war, restoration, and revolution again. The Petts remained the government shipwrights of Tudors, Stuarts, and Commonwealth and so

did most of the other Navy offices. As for the eighteenth century Baugh states: "The Admiralty could hire, but not fire" (Oppenheim 1896: passim; Ehrman 1953: 288; Baugh 1965: 87).

Permanence, career opportunities, and in-service training given, the entry into the service remains important. How were naval administrators and technicians recruited? The answer is: as in other fields of English administration in the sixteenth to eighteenth centuries, mainly through patronage, family or friendship connections. The Crown only appointed the members of the Navy Board; the Board appointed the main officers of the dockyard; later in the seventeenth century appointment was made by Admiralty warrant. The real selection was usually left, however, to the officer in charge of a particular function: the surveyor chose the dockyards' clerks of the survey, the victualling commissioner the victualling agents. Farther below a wide variety of possibilities existed. The master shipwrights hired their men and, of course, selected their apprentices; so did the storekeepers. The combination of life-long service and family recruitment created a network of connections and relationships. "William Sutherland, who wrote the two best books of the period on shipbuilding, was not an exceptional case, with 32 years' service as a shipwright and junior officer himself, his father and 'several of my relations' master carpenters and one of them a naval surveyor of contract-built ships, his uncle Bagwell master shipwright at Portsmouth, and his grandfather for thirty years a foreman of shipwrights at Deptford yard" (Ehrman 1953: 106).

Not before the eighteenth century the power of appointment was taken from the Navy Board and particular officers and given to the Admiralty. The Duke of Bedford as First Lord of the Admiralty in 1745 expressed his expectation "that my nomination . . . shall be accepted of" (Baugh 1965: 86). This centralized the power of recruitment, allowed to proceed along agreed standards, but led also to political patronage instead of a personal one.

Patronage, however, did not exclude merit and it could not, the more technical the service was. Where generations of shipwrights had accumulated a store of experience and skill in a family, an outsider could not easily match this knowledge. Still in the eighteenth century "there was a tendency to regard shipbuilding skill as a hereditary trait, and the best way to become a master shipwright was to have a father who was one" (Baugh 1965: 303). But sometimes recommendations of an insider were refused by the Board or

the Admiralty, and usually the previous career of an applicant was taken into account. Training in the dockyard service meant a definite advantage (Ehrman 1953: 106).

Professional ability was paramount for appointments of Surveyor and Master Attendant in the dockyards. Performance as a seaman could be judged and was critically judged by Navy officers who were consulted before appointments. Baugh states that "no amount of political favor could help a Master Attendant unless his knowledge of seamanship were attested" (Baugh 1965: 303). And while he regards the obvious inadequacies of eighteenth-century naval administration as part of a larger problem—"the problem of governing in a constitutional environment essentially hostile to vigorous administration"—he thinks that the navy administration fared relatively well in the general setting of corruption:

> The Navy Office was not a haven for indolent placemen or political appointees. No one could be appointed a Naval Commissioner unless he was evidently experienced either in sea or clerical affairs; nearly always the clerical experience was gained in the navy service . . . The Surveyor was always selected from the ranks of the Master Shipwrights . . . The Clerk of the Acts was usually a former dockyard officer, so were the three subordinate comptrollers, although occasionally a sea officer might be advanced to one of the Comptrollerships after some seasoning as an extra Commissioner. Extra Commissioners were usually former captains; and experience at sea was an absolute prerequisite for appointment as dockyard Commissioner (Baugh 1965: 5–6, 39–40).

Technical and administrative officers ashore form, of course, only part of the body of naval personnel. Skill and experience at sea counted even more in the struggle for predominance among the major seafaring nations of Europe from the fifteenth to the eighteenth century. How did England recruit and train her sea-officers? The underlying structure is the same as in the field of technology and administration. England relied first on the country at large, mainly its seafaring population, trained in fishery, merchant shipping, voyage, and piracy. With the growth of the Navy in-service training grew more important, but little if any formal naval education was introduced though the leading captains and masters consulted the mathematicians and astronomers in questions of naviga-

tion and charting and some secured themselves a sound theoretical training. The Crown took interest in navigation. As in astronomy and exploration, it helped finance (and shared the profit) of the voyages, but it did not set up a national schema or national school for navigators, and only later one for sea-officers.

In the late fifteenth and early sixteenth centuries, the kings of Portugal and Spain had established a scientific and formal approach to explore the sea and train the sea-officers. John II of Portugal in 1484 convened a commission of mathematical experts to work out a method of finding latitude by solar observation. It drew up a greatly simplified version of the tables of Zacuto, a Jewish astronomer at Salamanca, brought them up-to-date and devised a fixed procedure to enable an intelligent and literate seaman to use them. This was one of the first instances in modern Europe where the state deliberately employed a group of scientists to apply theoretical knowledge to the solution of an urgent practical problem. The result was conveniently summarized in a manual which was circulated in manuscript and several printings. To train navigators in celestial navigation and to license them for the East and West Indian voyages, both Portugal and Spain established schools of navigation early in the sixteenth century, one in connection with the *Casa da India* at Lisbon, the other in the *Casa de la Contratación* at Seville where Amerigo Vespucci and Sebastian Cabot taught as pilots major (Parry 1963: 94–96). England succeeded finally in enlisting the aging Cabot for her service, but she did not establish a school or a license system. A plan to introduce a chief pilot also to England with the task to certify the ability of the pilots, master mates, boatswains and quartermasters was not carried out, although a man already had been chosen (Oppenheim 1896: 149, 154). Neither did England employ royal cartographers as did Portugal and Spain in order to verify their explorations (Parry 1963: 104–105).

The English navigation remained backward until the 1570s. The French had acquired the new techniques before the English. Up to the middle of the sixteenth century, England produced no nautical treatises, instruments, or sea charts comparable to the Portuguese, Spanish or French ones. Englishmen did not yet command "the art of the astrolabe." For their Atlantic adventures they had to hire foreign pilots. But by the last decade of the century they sailed often unaided, and soon afterwards English pilots navigated Dutch fleets. Ten years of teaching by Sebastian Cabot and the mathematician

Dr. Dee had sufficed to train some first-class navigators like Richard Chancellor who discovered the Arctic route to Russia, or the brothers Stephen and William Borough (the latter succeeding Chancellor as chief pilot of the Muscovy Company and surveying and charting the White Sea with its coastlines) or John Davis who became the greatest scientific navigator in the latter part of the century.

At the same time the interest in the new sciences and techniques grew in England. Spanish works on navigation were translated into English, sponsored by the Muscovy Company, not the government. In 1574 the first important indigenous treatise in navigation appeared, William Bourne's *Regiment of the Sea*, which was followed by the *Variation of the Compass* by the same author and Captain John Davis' *The Seaman's Secrets* (1594). In 1600 Richard Hakluyt acquainted his countrymen with the *Principal Navigations, Voyages and Discoveries of the English Nation*, mathematicians and astronomers published the result of their research for naval application, and Robert Recorde's textbook *The Whetstone of Witte*, dedicated to the Governors of the Muscovy Company, "brought mathematics out of the scholar's closet into the merchant's counting house and into the sea-captain's cabin" (Waters 1958: 95).

In the second half of the sixteenth century, English instrument makers also acquired their skill for precision work which in the following two centuries proved to be so vital for the economic and technological advance of Britain. In the seventeenth century some of them cooperated with mathematicians and astronomers at Gresham College or the Royal Society and provided them with the precision instruments which were needed for empirical verification of the "new sciences." Theory and practice of hydrography and cartography were taken up successfully in England. But nowhere was the hand of government particularly felt. "Compared with the Spanish system, with its pronounced emphasis on governmental control, regular instruction at an official school of navigation, and careful regimentation, the English approach to the problems of the new age was flexible and individualistic" (Marcus 1961: 66). The Crown encouraged leading seamen like Hawkins, Drake, and Frobisher to apprentice young gentlemen in their craft by taking them to sea and hoped to secure thus a sufficient "store of skylful Pilotes" in the country to advance its commerce and sea power (Waters 1958: 114). Even the certification of masters and pilots competent to undertake oceanic voyages was left to a corporation of seamen, Trinity House,

which in 1565, among other privileges, received the right to examine future pilots.

At the beginning of the sixteenth century, the captain of a man-of-war was still an army officer, not a seaman; and the conduct of war at sea was regarded a different matter from the sailing of the ship. The one was done by soldiers, the other by seamen. With the growing importance of naval gunnery, war at sea changed its character; the art of sailing and the technique of gunning became integrated parts of one manoeuvre. The gentlemen captains had to learn seamanship, and the master and his sailors had to learn to fight while sailing. At the end of the century some of the commanders like Drake were professional seamen. As sailors learned to use guns, soldiers became rare on the ships. The "lessons of homogeneous manning and unified command, like the lessons of the great guns," which kept the combatting fleets at distances, "gained acceptance only gradually" everywhere. But it was decisive for England's future that the Spaniards and the Portuguese learned them more slowly than the English and the Dutch (Parry 1963: 123). One lesson the English gentleman officer had to learn when at sea was naval discipline. "I must have," wrote Drake, "the gentleman to haul and to draw with the mariner, and the mariner with the gentleman. If you come on board my ships, you shall obey my officers, whoever you are, and whoever they are" (Lewis 1939: 45).

Under the early Stuarts the nonprofessional officer without much naval experience prevailed again, however, and it was not until the turn of the seventeenth century that the professionalization of the Navy really was carried through. "There were gentlemen and there were seamen," wrote Macaulay about the Navy of Charles II. "But the seamen were not gentlemen and the gentlemen were not seamen" (Macaulay 1913–1915: vol. 1, 294). The seamen, called "tarpaulin officers," had no high social standing. Most were employed by the Royal Navy only in wartime, and even then only for eight to nine months a year, since in winter ships lay in dockyards to be repaired. However, since 1668 the flag officers received half pay during peace time, and gradually this system was extended to the lower ranks. Furthermore, after 1672 pensions were instituted for officers who had served for fifteen years. Junior officers like masters, boatswains, pursers, gunners, carpenters, and cooks received "rigging wages" which amounted to about half of the pay (Ehrman 1953: 139–140). Half pay at first was regarded like pensions mainly as reward for

past services; more and more it became, however, a provision for future service in order "to have always a Competent Number of Experienced Sea-Officers, supported on Shore, who be within reach to answer any sudden or immergent Occasion," as an Order in Council put it in 1700 (Baugh 1965: 103). These reserve officers were forbidden to hold any other public employment, to go abroad—hence they could not enter the merchant marine; they had to keep the Admiralty informed of their residences and could be called upon to reside near the dockyards and assist in fitting out ships. They had, in short, to "at all times be ready to obey orders." In 1713 half pay was extended to virtually all commissioned officers. Two years later the Navy Reserve Officers Corps consisted of 4 admirals, 188 captains, and 261 lieutenants (Baugh 1965: 104). The system of half pay secured the Crown enough officers and seamen for emergencies, but it did not in itself create an officer corps. The "tarpaulin-officers" complained that gentleman officers entered above their heads, brought the manners of the court to the Navy and did not know their job. Charles II introduced, therefore, in 1676 the system of "volunteers per-order," designed to encourage "families of better quality to breed up their younger sons to the art and practice of navigation"; if they were sixteen—actually many entered earlier—they were attached to a captain who had to teach them. At the same time a more theoretical preparation was devised for boys of lower social standing. In 1673 a foundation for "forty poor boys" was established, to be taught and instructed in the art of navigation (Lewis 1939: 227). But these "mathematical boys" never were regarded as equally well-trained as the volunteers, the "King's letter boys," and only few future officers chose this way of entry into the navy (Ehrman 1953: 140–143). The "King's letter boys," consequently counted for 48 percent of all officers who passed the entrance examination between 1702 and 1712. Forty-four percent were still merchant mariners, only 16 percent belonged to neither category; they usually entered as servants of sea officers (Baugh 1965: 98, Table 5).

An examination had been introduced in 1677 to get rid of such volunteers, "who having passed some time superficially at sea, and being related to families of interest at court, do obtain lieutenancies before they are fitted for it" (Baugh 1965: 100–101; Lewis 1939: 221). A three-year minimum was required at sea, two of the years as volunteer-per-order and the third as midshipman. This apprenticeship was prolonged to four years in 1703 and to six in 1722. Unlike the re-

quirement of a minimum age (which was raised to twenty years) apprenticeship could hardly be circumvented.

For the instruction of the young gentlemen the navy took schoolmasters aboard around 1700 who before appointment had to pass an examination of the Master and Brethren of Trinity House. The schoolmasters were expected to instruct not only the volunteers, but also "the other youths of the ship" in navigation, mathematics, and writing. But the officers did not appreciate their services and often avoided to take one aboard. At the end of the seventeenth century, the idea of a public school for the navy was developed; but nothing came out of it until the Admiralty decided in 1729 to erect a naval academy for volunteers-per-order. From 1733 onward up to forty sons of noblemen and gentlemen between the ages of thirteen to sixteen could be instructed at Portsmouth. They had to pass an entrance examination in mathematics, and to complete a "Plan of Mathematical Learning" before they received a certificate. The maximum time allowed was three years. Only twenty students attended the Academy on the average and only ten percent of the officers were recruited this way. The rest still went along the old apprenticeship lines, since the volunteer scheme was abolished in 1730. The old distrust of theoretical learning remained; so did the fear that a career was not secure if a young man did not have the patronage of somebody in office. Thus the patronage system remained with the Navy in spite of the built-in features of a merit system (Lewis 1939: 87–90, 272–280; Baugh 1965: 94–100, 123, 299). Compared with other departments of public service, the navy had gone, however, far toward the development of a true professional officer corps. A regulated entrance and training, permanent employment and pay including a superannuation scheme, this all was introduced around 1700, while most other services (with the exception of the colonial service) had to wait until the reforms of the nineteenth century (Lewis 1939: 51).

The question remains how the English naval technology and administration and its personnel compared with that on the continent. After all, Britain ruled the waves. Having done away with Spanish superiority late in the sixteenth century, she successfully fought the Dutch fleet in the seventeenth and the French fleet in the eighteenth century. What made the British Navy superior? Many observers state that Dutch shipbuilding was better than the English for most of the seventeenth century. The English merchant marine found it easier to put Dutch-built merchant ships, bought or captured, into

service rather than to improve their own methods of shipbuilding. In this respect, "it was the naval dockyards, building larger ships and disposing larger resources which stood out as leaders in the technology of large-scale shipbuilding" (Wilson 1965: 171). In 1688 the naval dockyards were "the most comprehensive and in some respects the largest industry in the country" (Ehrman 1953: 174; Coleman 1953: 134–135). Nevertheless, French shipbuilding was regarded as more scientific and leading to better results. In the late seventeenth century, conscientious officials in the English Naval Administration had Louis XIV's *Ordonnance du Roi pour les Armées Navales* translated for their private use (Ehrman 1953: 172); in the middle of the eighteenth century they regarded the French vessels as "faster, better-proportioned, and class for class, larger and more powerful than their British opponents" (Marcus 1961: 340).

If not technology—what else counted for British superiority? The experts agree that one reason was that England commanded larger resources, another that the Navy was highly valued in national life which enabled it to attract enough able young men with ample experience at sea. Both led to a superiority of the officer corps. "The average Dutch sailor was a first-class seaman, but an indifferent officer. The Dutch crews were on the whole inferior to the English in training, discipline and morale" (Marcus 1961: 138). The same holds true in comparison with the French. Thus a historian of the English Navy concludes: "The naval superiority of Great Britain depended upon the excellence of the personnel, rather than that of the matériel . . . Perhaps the greatest and most decisive factor of all was the British superiority in the quality of the officers . . . They formed the permanent, effective *cadre* of the service; they were imbued with the strongest sense of professional pride and *esprit de corps*: even in time of peace there were large numbers of them continuously at sea —far more than was the case with the Bourbon navies" (Marcus 1961: 362). Another expert agrees: "British officers generally fought more boldly and more competently. British captains handled their ships, British admirals their squadrons, more aggressively and more expertly" (Baugh 1965: 145).

The technical expertise of the British Army was not as crucial to the country as that of the Navy. The pattern of training of its officers was, however, similar. Again in contrast with the Continent, England developed no formal organization of training, e.g., for the gunners. While Spain had established artillery training schools be-

fore the end of the sixteenth century and France had made artillery a mathematically based art, the English Board of Ordnance left design and manufacture of cannon to the experience and ingenuity of the iron founders, "expecting no more than the equality of new guns with those already in existence" (Hall 1952: 17). From time to time, the Crown instructed the officers of the Board of Ordnance to test the value of inventions presented to it. This was the task of the Master Gunner of England and the Firemaster. They experimented, sometimes in the presence of the king or members of the royal family, and with the assistance of mathematicians of the Royal Society. One Master Gunner competed frequently with French and Dutch gunners at Woolwich arsenal where the first ordnance laboratory was set up. The later Stuart period with its active interest of the royal family in naval and military affairs and the close connection between scientists, mechanics and military technicians promoted military technology more than ever before.

The Ordnance Board was responsible for the training of the technical officers who had to learn to construct and to destroy fortifications and to employ guns, mortars, fireworks and mines. The Tudors and earlier Stuarts had employed foreigners in the more technical branches of military service; Sir Charles Moore in the reign of Charles II was the first Englishman to attain the same reputation as the French and Dutch experts. He was a surveyor of the ordnance, a fellow of the Royal Society and an author of books on mathematics, fortification and gunnery. During his service a regular training of artillery officers began. A royal warrant of 1685 provided that "divers of our subjects should be well educated and instructed in the art of an engineer and thereby fitted for our service in our fortifications or elsewhere" (Hall 1952: 20). While in the 1660s complaints about the incompetence of gunners were frequent and the Master Gunner was ordered to train them regularly and dismiss the incompetent ones, by the end of the seventeenth century the technical functions in the army were almost exclusively exercised by officers who had received some training in mathematics and mechanics. Technically qualified officers became more and more the backbone of the middle ranks in the army; by the middle of the eighteenth century the scientific side of gunnery had been so far developed that the bottlenecks were the manufacturing methods which continued on traditional lines. An efficient combination of scientific knowledge, metallurgical skill and military tactics was nowhere achieved, either

in France which attracted the best gun founders from many countries and had the best artillery school or in England where the trial-and-error method prevailed.

This failure to implement theory in practice raises the question about the role of science and scientific institutions like the Royal Academy or Gresham College for the technological development. No agreement has been reached on this issue among recent scholars.[29] There is certainly no clear-cut or even one-way causal relationship. For the question of the training of technical personnel the relationship between scientists, government servants and technicians matters. The evidence for such connections is great. England in the sixteenth and seventeenth centuries was a small country with a big capital in which all kinds of men easily could and did meet. Gentlemen and amateur scientists enjoyed the company of "professionals." Navigators and cartographers asked for the help of mathematicians, astronomers, and mechanics. Scientists needed the help of the instrument makers, and the most ingenious of the mechanics showed no contempt for theoretical learning. There were few formal relations before the foundation of the Royal Society in 1660; but interested people attended the lectures of the professors of Gresham College, which was opened in 1597 according to a bequest of Sir Thomas Gresham, the Tudor financier and founder of the Royal Exchange. Here seven professors taught such subjects as astronomy, geometry, and physics. After the lectures and in addition to them, social gatherings and scientific discussions took place out of which the Royal Society was born. Unlike its French counterpart, the Royal Society was not an institution in which salaried scientists worked, but a private gathering of professional and amateur scientists, a platform for exchanging ideas.

Members of both institutions, Gresham College and the Royal Society, and the first Savilian professors of natural science in Oxford and Cambridge had close working contact to many of the government technicians.[30] To take but one example: Henry Briggs, first professor of geometry at Gresham and later first Savilian Professor of Geometry at Oxford, communicated with master shipwrights of the royal dockyards and the mathematician John Wells, Keeper of the Naval Stores at Deptford. Briggs acted as a referee in a dispute

[29] English scholars usually deny any great influence for the seventeenth and eighteenth centuries. See, e.g., Hall 1952: 21–22. Also Mathias 1969: 30–33. In favor of this influence argue A. E. Musson and Eric Robinson (Musson and Robinson 1969).

[30] The professorships were founded in 1619 by Sir Henry Savile.

about the design of new ships. He helped in preparing voyages and was a friend of the royal compass- and dial-maker. Many other examples could be added, and there can be no doubt that "the close understanding and co-operation between scholarly scientist and technician was an outstanding characteristic of the scientific movement in England from 1550 onwards" (Johnson 1968: 291).[81]

Not less important, however, is the fact that noblemen and great officers promoted the rise of applied sciences, not only as patrons but sometimes also as active researchers. Cuthbert Tunstall, Master of the Rolls under Henry VIII and later Bishop of London and Durham, wrote a textbook on arithmetic (in Latin); in Thomas More's large household mathematics and astronomy were considered to be principal subjects of study, and the noted mathematician Nichols Katzer tutored More's children in astronomy. When John Dee in the third quarter of the sixteenth century assembled a large scientific library in his house near London, it became a center not only for scholars and instrument makers who looked for advice, but also for the great merchants who sought his counsel before voyages, and for members of Elizabeth's court and council who came to study chemistry with him. Lord Burghley, Elizabeth's chief minister, tried to promote both the sciences and scientists. On his request, William Bourne wrote a short treatise on the properties and qualities of glasses for optical purposes. Digges, one of the greatest mathematicians of his time, was called into the service of his country as a military engineer, first to supervise the fortifications at Dover, later as Muster-Master-General of the English forces in The Netherlands. When Spain prepared for the Armada and England feared invasion, the mayor and his aldermen of the city set up mathematical lectures for the officers of the trained bands to help prepare the defense of the city. In 1589–1590 an order of the Privy Council prolonged them for at least two years (Johnson 1968: 199–205). Thus, in effect, the first public lectures in mathematics in England were given for military purposes.

It is true that government as such seldom promoted and never organized science in the sixteenth and seventeenth centuries in England. But where the government as an institution failed, some of the great officers like Philip Sidney, Leicester, Lord Burghley and Sir Walter Raleigh stepped in. Each of Raleigh's voyages was also a scientific expedition, and one of them resulted in an early example of large-

[81] See also Taylor 1930; 1956; 1954; Waters 1958; Wright 1935; Hill 1965.

scale economic and statistical survey: Hariot's "Brief and True Report of the New Found Land of Virginia" (1588) (Hill 1965: 131–224).

The great scheme, however, which was devised in 1572 to provide scientifically trained servants of the Crown, was never realized, because Queen Elizabeth, short of money, "did all by halves" as Raleigh commented (Hill 1965: 159; Johnson 1968: 197). Men like John Dee, Sir Humphrey Gilbert, or Richard Hakluyt had pleaded for the "erection of an Academy in London for education of Her Majestes Wardes and other youths, of nobility and gentlemen" in mathematics and engineering, to apply this knowledge to military fortification, gunnery, geography, and navigation in the queen's service. It took another century before the English government employed scientific methods of rational calculation for its administration, through civil servants like Sir William Petty, the great political economist, and before Oliver Cromwell could advise his son: "Study mathematics and cosmography; . . . these fit for public service for which a man is born" (Hill 1965: 68).

FRANCE AND PRUSSIA

The strong absolutist tradition of both France and Prussia had its concomitant economic theory and economic policy: mercantilism which may be defined as entrepreneurship of the state in a very comprehensive sense. The administration thereby aimed at a sort of general management covering activities in fields like science, technology, education, military services, public works, manufacturing, and trade. To direct, encourage, or develop these fields of action, expert knowledge was required which was clearly beyond that of administrators such as *officiers* or *commissaires*. But these people could define the problem and seek for an institutional solution which, no wonder, laid much more stress on public service than was the case in Britain.

When it was clear that a strong economy meant everything in the international competition for power, one might have concluded that principles of science and technology would have to be applied to practical fields hitherto merely guided by tradition; that the enlightenment necessary for this development might be achieved by education; that education might be the only promising means for a latecoming nation if it wanted to imitate the forerunner. These circumstances gave birth to a third type of public servant, the *fonctionnaire*,

the technical expert who never belonged exclusively to the public service but gradually began to play a significant role in private enterprise. This kind of technical personnel is functionally defined by its expert knowledge which it usually gets by education, at least in the cases of France and Prussia. Therefore, it is appropriate to follow an approach of institutional history, i.e., to ask for the formation of technical personnel by educational provisions for diffusion of science and technology. Strong parallels between France and Prussia, as far as the institutional set is concerned, suggest a combined consideration. The common traits seem yet to give way to divergent developments, if the France after 1789 and the Prussia after 1806 are compared.

The traditional institution of higher learning existing since the Middle Ages has been the university (Ornstein 1963: 220ff.; Taton 1964: 13ff.). During the seventeenth, and to a lesser degree, the eighteenth centuries, however, French and German/Prussian universities were kept under the rule of the faculties of theology and clung to classical education within the faculty of arts. Nevertheless universities served the state as much as they offered professional training for law, medicine, and theology. Surprisingly it was Prussia which, in 1727, established the first chairs for cameralism. The Prussian administrators thus had to acquire some knowledge in economics, technology, statistics, and natural science, in addition to law. This state of affairs may perhaps explain why Prussia did not feel the need for technical civil service as early and as urgently as France apparently did. Apart from cameralism or "technology" (in the sense of the cameralists) the representation of mathematics and natural sciences was very poor at the university level. It is justified to state that the scientific revolution of the seventeenth century was largely happening outside the universities and was therefore connected with an organizational revolution: the professionalization of science and its diffusion via learned societies (Hahn 1971: 1ff.).

The French learned society in question is the Academy of Sciences. Only second to the Royal Society, as far as its dating is concerned, it was of profoundly different character. Its mere establishment, in 1666, meant the transformation of a private gathering of scientists into a royal institution of employed and salaried scientists. The concept of professionalized science shared by the members of the Academy coincided with the interests of Colbert's France: to have an advisory council of scientific experts; to draw on their knowledge and research in

order to improve navigation, warfare, architecture, engineering; to have the economic policy assisted by systematic application of science to industry and by diffusion of technological knowledge. Under these circumstances, the Academy of Sciences rapidly developed toward the supreme "arbiter of scientific and technological activity" within the French kingdom (Hahn 1969a: chap. 1; cf. Hahn 1969: 231). Its major instruments were the printing privilege for scientific work and the issuance of patent rights for technological work (Hahn 1971: 60ff.).

The close cooperation between administrative and technical personnel can clearly be seen in the history of the Academy of Sciences. We may even speak of the transition or juncture between the worlds of *la robe* and the *fonctionnaires*. If we remember what has been said about the administrative machinery of the established absolutist state, it was the comptroller-general and his *intendants* who tried to enlarge their original field of competence, i.e., fiscal administration, toward the full range of inner politics. The department of the comptroller-general accordingly comprised divisions such as "rivers and forests," "bridges and highways," "powder and saltpeter," and, most important, the "bureau of commerce." This bureau was made up of four *intendants* of commerce each in charge of a certain industrial branch and a number of *généralités*. The decision-making process within the bureau of commerce concerned the following issues: "(1) questions about the access of the factory to fuel, raw material, market, labor, and transportation; (2) principles governing the tests of new processes, the imposition of zoning rules, the regulation of methods of labor and of manufacturing methods, and the granting of such encouragements as to cut wood for fuel, exclusive privileges to manufacture, imposition of tariffs and tolls, and exemption from tariffs and tolls; (3) policies to be pursued for each region and each major industry; and (4) assumptions regarding the nature of the kingdom, the interrelations of agriculture, industry, and commerce, and the necessity of a favorable balance of trade" (Parker 1965: 89).

It is perfectly understandable that French administrators needed informed counsel for their decisions. Once the Academy of Sciences had been established we find a fairly close collaboration between administrators and scientists. Colbert initiated this tradition by instructing, in 1675, the Academy to begin what later became the famous *Descriptions des arts et métiers*. The regulations of 1699 legalized the Academy's position of granting patent rights exclusively. Specific re-

quests for investigations and experiments were laid upon the Academy or individual academicians from 1725 onward. There were academicians serving as permanent consultants to the bureaucracy or to the state's manufactories (Parker 1965; Hahn 1971: 68ff.).

Scientists thus played a key role, via the Academy, in determining the decisions of the administration. This holds especially true for commerce, where the central administration was less hampered by existing competences of *officiers* and therefore could achieve more than merely inspecting and reporting. With regard to state- and nation-building we may join in stating: "France became the first nation to make scientific research a career and to recognize that the possession of highly skilled manpower was a basic factor in national power" (Gilpin 1968: 95). This high evaluation of the scientists of the Old France found its organizational concomitant in the integration of scientists into the social order of the day. The hierarchical structure of the Academy of Sciences (including its co-optative recruitment policy), the privileges ensuing from membership in the Academy, the ennoblement of some *fonctionnaires* show that these people were not socially diverted from the world of *la robe* (Hahn 1971: 72ff.; Taton 1964: 367; Reinhard 1956: 25). At the same time the *Ancien Régime* set the powerful French tradition of employing scientists (and engineers/technicians) as state functionaries, a tradition often imitated but nowhere surpassed.

If we turn to Prussia, we see the Berlin Academy of Sciences established in 1700, after decades of planning and urging by Leibniz. The celebrated founder wanted to combine *theoriam cum praxi* in order to improve not only arts and sciences but country and people, agriculture, manufacture and commerce (Harnack 1900: vol. 1.1, 81). But nothing significant happened in this direction. And when under Frederick II the Berlin Academy had a first peak of activity acknowledged in the world of science, scientists had no influence whatsoever upon the direction of public affairs (Harnack 1900: vol. 1.1, 308). Notwithstanding this general statement the main biographer of the Academy enumerates some activities of the academicians related to practical purposes: lectures on forestry, mining, natural sciences, astronomy; expert judgments on questions of theoretical and applied sciences as well as on inventions and discoveries of all kind; proposing prize subjects and awarding the prizes (Harnack 1900: vol. 1.1, 384ff.). Lack of research into the history of the Berlin Academy may hinder a more favorable or at least substantiated

judgment, but Frederick William III argued in 1798, that the Academy failed to take care of improving the mechanical arts (Harnack 1900: vol. 1.2, 528).

Two years before this the so-called Technical Deputation (Matschoss 1911; Straube 1931) was established as part of the Department of Manufactures. After its reorganization, in 1811, the Technical Deputation assumed many of the functions that the Paris Academy had fulfilled before the French Revolution. Though chronologically belonging to another time period we will give attention to the Technical Deputation within the present context for systematical reasons. The mere fact of doing so may indicate the belatedness of Prussia as compared to France. The Deputation consisted mainly of officials in the fields of administration, science, and technology. Their principal occupation was to advise the administration of industry and commerce on all matters demanding special knowledge and to develop practical devices for promoting industry. The larger part of the Deputation's daily work was devoted to matters of patent rights. But there are other close parallels to the Academy: the organization of a library including the international journals on technology; the establishment of laboratories and workshops; the collection of models, machines and products covering the whole range of technology.

The most characteristic name for this kind of collection was chosen for the French prototype. The *Conservatoire des arts et métiers* (Artz 1966: 143ff.) clearly surpassed the collections of the Technical Deputation. It could draw on the collections of the Paris Academy, of Vaucanson's (1775), and others' when it was formally organized in 1794. This industrial museum set the pattern of a fortunate combination of exhibitions, research facilities, and lecturing, but without the rigor of any well-defined college. Such a pattern was perhaps of optimal appeal to people (such as artisans) eager to acquire some technological knowledge but never thinking of becoming a state *fonctionnaire* in the technical service. The state, however, especially if we go back to the *Ancien Régime*, could not be content to have its administration guided by experts on scientific and technological matters; to see the question of granting patent rights handled properly. Administration of an absolutist and mercantilist state needed a technical field service. First, therefore, the diffusion of scientific and technologcial knowledge, which hitherto was given at random as a by-product of the Academy's work, had to be rigorously organ-

ized: hence the birth of technical colleges. Second, this technological education aimed primarily at creating state corps of technical personnel (either civil or military): hence the relatively poor provisions for vocational education of the working people.

Military service dates back as long as states exist, and it often involved certain techniques which required some professional education, not to speak of the old relations between warfare and scientific research. The particular military techniques of the West-European state-building period were, roughly speaking, fortifications and artillery. This business brought in two kinds of specialists within the armies, the *génie*-officer (i.e., military engineer) and the artillerist. In both fields France gave the example of training technical personnel via military technical colleges.[32]

Before establishing, however, the later famous *École du génie* (Taton 1964: 559ff.) at Mézières (in 1748), the *corps du génie militaire* was already organized under Vauban, the first great French military engineer who became appointed Inspector General of Fortresses, at the time of Colbert and Louis XIV. The hitherto not regulated recruitment into the corps was bound, in 1697, on passing entrance examinations before Vauban as examiner. Candidates had to look for private opportunities of preparation, until finally the college was established. We may perceive the typical pattern of development in the recruitment practices of the technical corps: (1) admittance into the corps and training-on-the-job afterward; (2) admittance only after passing entrance examinations: hence formal education either privately or through the newly established college. It is not necessary to say that after some time the college again started to limit admission by entrance examinations which accordingly brought preparatory institutions into existence (like the pensions in Paris of the eighteenth century).

The *École du génie* of Mézières achieved high reputation for fine and advanced education, centering on pure and applied mathematics. The college was unrivaled throughout Europe and must be considered as the direct ancestor of the still more famous *École polytechnique* of 1795. As far as artillery is concerned, the second technical service of the military, several schools were established in 1720, and an advanced college in 1756, at LaFère. Of less brilliance than

[32] There is no room to touch the general military education. Cf. Taton 1964: 513; Bien 1971.

the sister college of engineering, this *École des élèves* was highly restricted to young nobles who also received preferential treatment at the *École du génie* (Taton 1964: 513ff.; for the officers of the navy cf. 547ff.).

The Prussian corps of military engineers was organized in 1729, but never reached any appreciation on account of high standing during the eighteenth century (von Bonin 1877; von Poten 1896). Regarding the huge Prussian Army, the number of engineer-officers (some sixty at the end of the century) has to be considered small in comparison to the French *corps du génie* of some three hundred officers. A modest attempt to establish an *École de (!) génie* at Berlin, in 1775, under a French professor, did not improve the situation, nor did the opening, in 1788, of an academy for military engineering bring much progress. The same or even a worse picture is to be seen with regard to artillery. Only in 1791 an academy was set up. Thus we have to conclude that Prussia was far behind France as far as the formation of technical personnel within the military realm is concerned. It is only the Prussia after Napoleon's defeat which catches up and gains credit in this respect, similar to what has been said about the respective academies of sciences and the industrial museums.

The major technical service within the civil realm and of crucial importance to the modernizing state comprises civil engineering and architecture (other important branches not being dealt with in this paper are: mining, hydrography, geography, ammunition). Here again France is the pioneer according to the familiar pattern: first creating the corps, then establishing the college. At the time of Colbert the king appointed individual engineers or architects and held them responsible for public works. This state of affairs led, in 1716, to the constitution of the *corps des ponts et chaussées*, like the *corps du génie* of hierarchical structure and distributed into the *généralités* of the kingdom of France. Highways and bridges were, as we remember, part of the comptroller-general's department. Consequently it was an *intendant* of finance, from the *la robe* family of the *Trudaines*, who initiated the beginnings of the *École des ponts et chaussées* (Taton 1964: 343ff.) in 1747.

The founding of this celebrated and unique college is rather interesting since it shows again the precise point, where administrative and technical personnel came together. The practical task to cope with during the 1740s consisted of the general planning and design

of highways for the kingdom of France. The engineers of the *corps des ponts et chaussées*, appointed to the *généralités*, had to submit their regional designs to the central administration of bridges and highways according to a uniform pattern of information needed. Trudaine as head of the administrative division must not have been satisfied with the result. In 1747 he ordered one of his outstanding engineers, Perronet, who was engineer of the *généralité* of Alençon, to reorganize the bureau of design at Paris, which had been established a few years before. Perronet continued to have the students make cartographical work but included some scientific and technical education. Again reorganized in 1775, by Turgot, the now *École des ponts et chaussées*, still under the direction of Perronet, requested a high standard in theoretical mathematics from its graduates, only comparable to the *École de génie* of the time. It is obvious that the college for civil engineering did not offer technical education to the general public but only to students who filled already the lower ranks of the state corps of engineers. We may summarize that there are close common traits between the history of civil and military technical education in France.

The respective history of civil technical engineering in Prussia follows a similar pattern, though at a later time and of less military-like orientation. The last point is made clear, if one does not find a Prussian state corps of civil engineers. On the other hand, however, Prussian "building officials" form a strong part of the administration and thereby participate in the general pattern of Prussian bureaucracy with its hierarchical structure and rigor of qualifications. The oldest institution which offered some education in the field of civil engineering was the Berlin academy of arts, established in 1696 (Simon 1902: 642ff.; Dobbert 1899: 11ff.). Its fields were painting, sculpture, and architecture. The architectural branch was yet but a stepchild within the academy. When Frederick II tried to establish an *École de génie* for his military engineers (1775) he made a separate class of architecture to be constituted. Since this was very unsatisfactory, the academy of architecture (*Bauakademie*) (Dobbert 1899; Straube 1931) was finally established in 1799. This meant for the first time a comprehensive theoretical education for future building officials, comprising mathematics, mechanics, physics, hydraulics, drawing, a.s.o. Thus we find in the end of Old Prussia a college comparable to the old *École des ponts et chaussées* which at this time had already undergone the changes of the Revolution.

It should be noted that the term "academy" within the Prussian/German realm corresponds to "college." It is only the Academy of Sciences which refers to a learned society like the numerous French academies. On the other hand we learn that the French *Académie d'architecture* of 1671 may in fact be considered as "the first higher technical school in France" (Artz 1966: 33). Probably it narrowed itself to a learned society while the *École des ponts et chaussées* took its place as a college for civil engineering. Reviewing the eighteenth century as far as technical personnel is concerned France is characterized by (1) organizing civil and military engineers into state corps; (2) establishing colleges for their technical education; (3) setting high standards especially in theoretical knowledge. Prussia's development starts later and attains lower and more modest achievements. In fact it catches up with France only in the nineteenth century, which deserves special interest since it finally led to France's losing its leading position.

At a first glance Prussia seems to achieve, in the early nineteenth century, a pattern and level of technical education for its technical field service (military and civil engineering) which corresponds to the French model before the Revolution. The *Bauakademie* which was established only in 1799 successively raised its standards and continued to educate primarily "building officials." The entrance qualifications comprised knowledge in Latin and French which meant that the students had to attend the *Gymnasium* (grammar school) before entering college. The recruitment possibilities were still further narrowed by awarding special scholarships to sons of Prussian building officials (Dobbert 1899: 43). When Beuth became director of the *Bauakademie* (1831–1845) he redefined the curriculum very closely to the needs of the hierarchy within the civil engineering service. Only in 1849 the college was reorganized with free choice of courses being introduced. This development finally led to the establishment of the *Technische Hochschule* (technical college) in 1879.

The *Bauakademie* of 1799 to 1849 may be compared to the old *École des ponts et chaussées*. The latter college had by now undergone a profound change as part of the overall reorganization of education in general and technical education in particular during the French Revolution. The major achievement in the realm of technical education was the clear division between (1) a general scientific education to be given by the *École polytechnique* (1795) and con-

sidered as the common basis for all technical branches; and (2) a specific technical education to be given by the various *Écoles d'application* after attendance of the *École polytechnique*. The concept of the *École polytechnique* was as ingenious as the brilliance of the teachers and students at the college was unmatched. The overwhelming majority of the graduates went into three services: artillery, military and civil engineering (Marièlle 1855: tableau c). Thus the reorganized *École des ponts et chaussées* was one of the major *Écoles d'application* which consequently set higher standards than the Berlin *Bauakademie* of the time prior to 1849 or 1879. Prussian authorities must have realized this since they thought of reorganizing the *Bauakademie*, in 1817, into a sort of polytechnical college (Dobbert 1899: 41).

As a matter of fact military officials joined those of other departments in favoring the establishment of an *École polytechnique* at Berlin, but they did not succeed (Manegold 1966). The military interests in this matter were clearly influenced by the French example. Graduates of the *École polytechnique* who wanted either to join the army or had to do so (more than fifty percent) went to the *École d'artillerie* and *École de génie* which were combined, in 1802, to form the second major *École d'application*. On similar lines the Prussian United Artillery and Engineering College was organized in 1816, but again there was no *École polytechnique* for preparation. This state of affairs leads us to the conclusion, that as far as civil and military engineering is concerned Prussia followed the French model of the time before 1789 during the first half of the nineteenth century. The Prussian colleges for the training of technical public servants never reached the high standing of the respective French institutions of the time up to 1850.

But this is only one half of the story. The powerful and lasting tradition of recruitment for state service, the attraction of high-level education in scientific and technical matters upon intellectually outstanding students—this self-reinforcing combination led to an overloaded accumulation of technical personnel within the realm of public service and was eventually harmful to the needs of industrialization. We cannot go into details with regard to this complicated matter, but the following exposition will present its general outlines.

Where could people who did not intend to enter public service acquire scientific and technological knowledge useful for manufactur-

ing and trades? Universities did not play any remarkable role in these fields either in France or in Prussia, though it has to be stressed that German universities became leading in natural sciences in the latter two thirds of the nineteenth century.[88] Colleges such as the Prussian academies of arts and of architecture were never as exclusively confined to public servants as their French counterparts. In addition there were schools of arts set up in the late eighteenth century to give artisans some basic instruction in mathematics and, above all, in drawing (Simon 1902: 657ff.; Thyssen 1954: 42ff.). This kind of vocational school is to be found in France, too. The leading school of design was established in 1767 and offered courses to 1500 students using a rotary system of attendance (Taton 1964: 441ff.). The beginnings of the French vocational schools proper were laid by the Duc de la Rochefoucauld who founded a trade school in 1788 which became the prototype of the *écoles d'arts et métiers* (Artz 1966: 133ff.; Léon 1968: 77ff., 177ff., 205ff., 241ff.). Up to 1850 only three of these trade schools were founded which gradually raised their standards.

Apparently the pattern of advanced technical education via the *École polytechnique* (with its graduates mostly entering public service); and of the somewhat modest vocational education via the few *écoles d'arts et métiers* could not satisfy the need of the growing French industry for advanced technical personnel. Therefore, the *École centrale des arts et manufactures* (Guillet 1929) was founded in 1829, by cooperation of one distinguished administrative official, two professors and one artillery officer. Only in 1857 the state took over this college which was the first training institution in French history solely aiming at supplying high-level manpower in the fields of mechanics, construction, metallurgy, and chemistry for the purposes of private industry.

Prussia shows a different picture with regard to promoting industry by investment in education. As yet the existing schools of arts of the late eighteenth century did not benefit from the secular reforms of Prussian general and technical education after the breakdown of Prussia. The energetic Beuth preferred to start once more right from the beginning, and in doing so he laid his main emphasis on the central college in preference to the provincial schools. Thus Prussia, while backward compared to France in the realm of technical edu-

[88] On nineteenth-century universities cf. Guerlac 1951: 81ff.; Ben-David and Zloczower 1962: 45ff.; Gilpin 1968; Manegold 1970.

cation for public service, preceded France with regard to technicians for industry, when the *Gewerbeinstitut* (Straube 1931; Lundgreen 1972) was established in 1821. The modest beginnings of this college are perhaps best illustrated by the fact that both the *Bauakademie* and the *Gewerbeinstitut* offered courses in civil engineering. But no graduate of the *Gewerbeinstitut* would have been admitted as a construction official into the civil service. On the other side it is precisely these circumstances which Beuth had in mind. He intentionally aimed at improving the technological knowledge of small artisans without requesting undue entrance qualifications. Gradually, however, his college shifted toward education of technicians who later became employees in the textile and metal-working industries as well as in railway construction. In the rare instances when state authorities wanted to engage a graduate of the *Gewerbeinstitut* Beuth refused them. When time went on and industry became advanced in the size of units and in the degree of technology involved, the *Gewerbeinstitut* was reorganized with its standards raised until it was combined with the *Bauakademie* into the *Technische Hochschule* of 1879.

In the end the two branches of technical education for public service and for industry gave in to a uniform common one. At this time, however, France had lost its leading position compared to Prussia. Science, technology, technical education and industrial progress were considered to be highest in Imperial Germany, even by British observers (cf. Artz 1966: 267f.; Ben-David and Zloczower 1962; Gilpin 1968; Haines 1957–1969). We cannot go into any details about this interesting feature, but we believe that this development had one of its causes in the varying emphasis the two countries put on technical education for public service or for industry before 1850. Variations in this balance may be indicated, on a lower level, if the three *écoles d'arts et métiers* are compared to the some twenty provincial trade schools beneath the *Gewerbeinstitut*. Similar variations are to be seen if we aim at an overall calculation of top level technical personnel thereby summing up what has been said about institutions of higher learning in the technological realm (see Table 7–2).

Up to 1850 the number of engineers trained for military or bureaucratic purposes predominates in both countries, even if we subtract the artillery officers. The grand totals of the output of trained engineers in Prussia and France are in proportion as 1:1.3, the size of the two countries' populations relate as 1:2.3. This means that

TABLE 7–2. OUTPUT OF TOP-LEVEL TECHNICAL PERSONNEL IN FRANCE AND PRUSSIA, 1820–1850

Sector	France		Prussia	
	Institution	Graduates	Institution	Graduates
Public Service	*École polytechnique*		*Vereinigte Artillerie- und Ingenieurschule*	
	Artillery	1,600	Artillery	1,000
	Génie	850	Military Engineering	500
	Ponts et Chaussées	800	*Bauakademie*	1,000
Industry	*École centrale des arts et manufactures* (1830-1850)	1,400	*Gewerbeinstitut*	1,000
	Total	4,650		3,500
	Total exclusive of artillerists	3,050		2,500

Sources: Dobbert 1899; Guillet 1929; Lundgreen 1972; Marièlle 1855; von Poten 1896.

Prussia trained relatively more technicians. Within the countries' quotas the numerical relation between public and industrial technicians is the same: only 30 percent of all technicians are at the disposition of private enterprise. In quantitative terms Prussia seems to have caught up or even surpassed France. Qualitatively the level of education to be gained at the *École polytechnique* and its *écoles d'application* was certainly higher. This leads back to our main argument. France kept on its highly reputed tradition of technical education for public service. Prussia built up gradually a system of technical education originally geared to the needs of industry and continually adjusted to the state of economic and technological development. Finally, this kind of technical education fused with the civil part of the public service training facilities, the *Bauakademie.* Henceforth the state had to compete with private business when trying to recruit its technical personnel.

So far we have drawn our arguments largely from institutional history. What all this actually meant for the progress of economic modernization during the period of state- and nation-building cannot satisfactorily be answered unless further research scrutinizes the extent to which technicians fluctuated between the public and private sector. No representative statement is possible in this regard. Nevertheless it can be pointed out that public service continued to be of the utmost attractiveness to the French middle class (O'Boyle

1966: 826ff.). The long tradition of *la robe* did find its successor in the *fonctionnaires* who graduated from the *grandes écoles*; the aristocracy of the *noblesse de fonction publique* gave way to the meritocracy of elites having passed the various *concours* (Reinhard 1956: 24ff.; Hahn 1969: 234f.). If, then, there is any example for the alleged affinity (Kocka 1969: 180ff.) between "bureaucrat" and "engineer," France has to be named rather than Prussia.

Summary

The foregoing review of state-building and the recruitment and training of personnel as experienced by three major West-European countries points to a number of similarities as well as differences which shall be briefly summarized. When Britain, France, and Prussia embarked upon state-building, they were confronted with the common problem of creating a loyal and efficient personnel to execute the orders from above. Various differing preconditions, however, determined the respective patterns of state-building and the features, role and impact of the administrative and technical personnel involved. Thus we find different ways and means of securing loyalty and of providing for efficiency which in return lead to divergent social and political implications marking the course of national history.

Notwithstanding the common experience of Roman Law, of medieval church and strong cities of medieval and early modern times, considerable differences between the English and continental ways of recruiting and training personnel can be discerned. In a time when absolutist government was far from reaching its climax in France and when there was no sign yet of its future development in Prussia, it came to an end in Britain. The English nation-state had then been mainly built, but without creating a service elite like that on the continent. It remains even doubtful whether the events of 1640 and 1689 significantly marked the history of administrative personnel in England which shows a long-lasting tradition of strong but cooperative local self-government; of recruiting semi-amateurs from different strata of the society (except the lower classes); and of relatively more restraint in state intervention or activity in economic affairs. Loyalty was basically secured by the alliance of crown and nobility with the gentry and the (rising) bourgeoisie; it was "their" state, and the recruitment to offices via patronage simply meant that

there was not much of a separated class of bureaucrats but a relatively open, political society with officeholding as a means of integration.[84] Consequently there is not much to be said in terms of institutional history about the recruitment and training of personnel, in contrast to France and Prussia. Even for the training of technical personnel where more professionalization is required few institutional devices were developed by the state.

Thus we might conclude that the very continuity of state-building (including only a short and early ending period of absolutism) led to a less bureaucratized state which only in the aftermath of industrialization began to increase its administrative personnel on lines similar to all industrialized societies. With regard to technical personnel, both the informal tradition of recruiting administrative personnel and Britain's position as a pioneer of industrialization limited the deliberate attempts of governments to create manpower, in contrast to the continental late-comers and their simultaneously differing bureaucratic traditions. It was only in the late nineteenth century that Britain realized the necessity to embark upon technical education (which also meant enlarging the bureaucracy) in order to keep pace with the now progressive continent.

On the continent we have both the common traits of France and Prussia as against Britain; and the differences between France and Prussia. Both continental states developed a higher degree of bureaucratization than Britain. Considering the strength of provincial particularism and, in the case of Prussia, the outlived remnants of the Holy Roman Empire, state-building was a heavier task for both the continental countries, not to speak of geopolitical disadvantages adding difficulties and costs. As far as Prussia is concerned she represents a contrast to Britain in nearly every respect. Starting extremely late and in a backward economic setting, Prussian kings tried to make up by behaving as technocratic planners in an underdeveloped country: allying with the nobility, the one force existing which could be used as core of a service elite; broadening and in fact creating a service class by institutionalizing professionalism (provision for education and training); recruitment on lines of a merit system tempered by co-optation. A powerful bureaucracy thus came into being which could pretend to represent the commonweal. It is

[84] Cf. Weber's remark that the gentry saved Britain from being bureaucratized. Weber 1956: 1051.

only consequent that we find, in Prussia, enlightened absolutism and bureaucratic autocracy but no successful bourgeois revolution or political victorious bourgeoisie.

With regard to France state-building started earlier and in a more advanced economic environment. There was no vacuum to be filled with public servants but the necessity of coming to terms with competing forces: the complicated play of crown vs. nobility; old vs. new nobility; bourgeoisie vs. nobility. Bureaucracy in this realm meant arrangement which was achieved by making use of the world in *la robe*; venality of offices both as a means of creating loyalty and serving the independence of bureaucracy; high *magistrature* providing for recruitment and training for administrative personnel. On functional as well as on social grounds the praise usually accorded to the French bureaucracy may be discarded. One may only think of the one point that where the Prussian War and Domains Chambers correspond to the *intendants* in France there is no French functional equivalence to the *Steuerräte* and *Landräte* in Prussia.

The French Revolution gave to the bourgeoisie a place within society similar to that in England. The world of *la robe* gave way to a meritocracy of graduates from the *grandes écoles*. Tempered though this merit system has been by patronage (and opportunity costs of education), the principle of recruitment and training on achievement-oriented lines had its outstanding forerunner already in the France of the *Ancien Régime* with regard to technical personnel. This bifurcation of administrators (generalists, trained via the high *magistrature*) vs. technical experts (specialists, trained via technical colleges) calls to mind Weber's distinction between a cultivated person (or leading politician) and a professional (or executive expert) (Weber 1956: 737; cf. 1059–1060). Prussia though adhering to the expert concept for both administrative and technical personnel never reached the performance of French technical education. Being a late-comer, however, Prussia could more easily adjust to the needs of industry (as opposed to public service) whereas France kept on her tradition of breeding excellent talents for civil and military service. Prussia/Germany thus finally caught up and became a model of economic performance to look upon even for the British. French institutions, however, "were resistant to further evolution just at the moment that scientific research entered its greatest period of advancement and just when scientific theory had truly become for the

first time the basis of technological innovations" (Gilpin 1968: 84).[35] None of the three "competitors" hence developed an optimal system of training and recruitment of administrative and technical personnel; each had its specific advantages and drawbacks.

[35] Cf. Gilpin 1968: 101: "Secondary and higher education became a prisoner of the examination system."