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Source: *French Historical Studies*, Vol. 14, No. 2 (Autumn, 1985), pp. 176-191

Published by: Duke University Press

Stable URL: <http://www.jstor.org/stable/286581>

Accessed: 01/12/2009 03:44

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Tactical Evolution in the French Army, 1560-1660

John A. Lynn

Trying to understand seventeenth-century European history without weighing the influence of war and military institutions is like trying to dance without listening to the music. Territorial unification, bureaucratic growth, social tension, and civil rebellion were all influenced by the style and growth of armies on the Continent. No single publication has done more to extend our knowledge of seventeenth-century military history than Michael Roberts, *The Military Revolution, 1560-1660*.¹ This very brief but provocative essay published in 1956 has set the terms of the debate and stimulated research and writing for nearly three decades.

Roberts asserted that a revolution in tactics accomplished by the Dutch stattholder Prince Maurice of Nassau (1584-1625) and the Swedish king Gustavus Adolphus (1611-32) drove the older Spanish system of massive, unwieldy infantry formations off the battlefields of Europe. New strategy took advantage of well-trained mobile armies to pursue victory, instead of prolonging stalemate. At the same time, standing armies emerged as land forces grew to unprecedented proportions, giving statesmen potent weapons of war for grand schemes. However, the gargantuan armies spawned in the seventeenth century burdened society with crushing taxation, heavy-handed bureaucracies, and all the weighty trappings of absolutism.

Since the initial appearance of Roberts's essay, a number of

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¹ Michael Roberts, *The Military Revolution, 1560-1660* (Belfast, 1956). See also Roberts's more extensive treatment of technical military reform under Gustavus in *Gustavus Adolphus: A History of Sweden, 1611-1632* (London, 1958), 2:169-271.

publications have debated the character and even the existence of the “military revolution.” Geoffrey Parker’s article “The ‘Military Revolution’ 1560-1660—a Myth?” (1976) stands as the most notable of these discussions.² Basing most of his comments on the army he knows best, the Spanish, Parker rejected much of what Roberts had to say. As fine as Parker’s article is, neither it nor other general discussions of the Roberts thesis have yet closed the book on its challenging assertions. Only an accumulation of studies that examine the character and impact of military change state by state can lay secure foundations for a final assessment.

An account of the “military revolution” in France ought to command center stage in this effort, for with its victory over the Spanish at Rocroi in 1643, the French army established itself as the premier land force in Europe. In an earlier article I dealt with the growth of the French army and with the soaring budgets and burgeoning administration that came as necessary consequences of that growth.³ There I argued that during the seventeenth century, the army mushroomed from peacetime levels of ten to twenty thousand and wartime strengths of fifty to eighty thousand to reach peacetime figures of one hundred thirty to one hundred fifty thousand with wartime peaks of four hundred thousand. In this article I direct my attention to the more narrowly technical side of the issue—French tactical innovation during the sixteenth and seventeenth centuries. Roberts was convinced that the outlines and timetables of changes in tactics and training could not be dismissed as historical marginalia or military buffery. Rather, he saw these changes as causal factors in the formation of standing armies, the reform of military administration, and the consequent growth of armies.

According to Roberts, the “military revolution” transformed infantry tactics by replacing the great Spanish tercios with smaller and more adaptable battalions patterned after Dutch and Swedish practice. He describes the tercio as a clumsy monolithic square containing about three thousand men. It was the first workable mating of pikes and firearms, but like most first attempts it was crude. Putting a premium on solidity, the tactics of the tercio included little if any skilled maneuver. Troops arrayed in such un-

² Geoffrey Parker, “The ‘Military Revolution’ 1560-1660—a Myth?” *Journal of Modern History* 28 (1976): 195-214.

³ John A. Lynn, “The Growth of the French Army during the Seventeenth Century,” *Armed Forces and Society* 6 (Summer 1980): 568-85.

wieldy formations required few officers, and the soldiers themselves received only minimal training.

Roberts contrasted the *tercio* with the battalions pioneered by Maurice of Nassau and further refined by Gustavus Adolphus. Maurice grouped his infantry in battalions of five hundred, which were then strung together along the battle front, creating a thin, or linear, formation. Such a linear order made far better use of the muskets and pikes of the troops, but it demanded that troops master much higher levels of skill in the handling of their weapons and in maneuver. Parker rebutted Roberts by insisting that by the time it battled its seventeenth-century opponents, the *tercio* itself was no longer the massive, ungainly formation it had been decades earlier; in other words, by incorrectly sketching Spanish tactics, Roberts painted Dutch and Swedish reforms as more innovative than they were.

Three questions need to be asked regarding French infantry organization and tactics during this period. First, where did they fit into the tactical spectrum, that is, how did the French fight? Second, does a look at the French example lead us to portray seventeenth-century tactical change as revolutionary or evolutionary? And third, did military innovation in France flow primarily from native springs, or was it imported from Dutch and Swedish sources?

During the Italian wars (1494-1559), the French relied primarily upon their mercenary Swiss infantry, which fought in massive pike squares, as did the Spanish forces arrayed against them. However, in the Wars of Religion (1562-98), necessity forced commanders to experiment with different tactical combinations.⁴ Without the resources of royal taxation, and lacking the crown's permanent Swiss and French units, French Protestants faced particularly serious problems in organizing and fighting with their infantry. Partisan warfare, or *petite guerre*, which called for small units acting independently, familiarized the French foot troops with fighting as companies. Regiments formed for battle as a single line of small company squares in which soldiers stood only ten or twelve ranks deep. These company squares were separated by intervals equal to the front of one square. The intervals could be closed when cavalry

⁴ The best general summaries of the art of war from 1500 to 1648 are Charles Oman's classic *The Art of War in the Sixteenth Century* (London, 1937), and the more recent chapters by J. R. Hale and J. W. Wijn in *The New Cambridge Modern History* (Cambridge, 1958-70), vols. 2-4. A nineteenth-century work, Edouard La Barre Duparq, *L'Art militaire pendant les guerres de religion, 1562-1598* (Paris, 1864) provides a first-rate treatment of this subject.

threatened.⁵ Large squares might occasionally be formed in defense against cavalry, with troops marshaled in great masses numbering three to five thousand men; however, French infantry usually stood in regimental formations totaling no more than one thousand men.⁶

Even as the French adopted small units and abandoned large squares, there were those, François de la Noue for example, who still argued in favor of more massive units of two thousand men.⁷ Thus the debate continued, and military handbooks encouraged this debate. The late sixteenth century witnessed a flood of handbooks which displayed a variety of ornate formations in defiance of simplicity and common sense.⁸ Arrowheads, windmills, and other fanciful and impractical battle orders were proposed. But this handbook literature should not blind us to the reality.

Under Henri IV (1589-1610), the battalion became the standard combat unit for French infantry. Because French tactical units were already small, the most obvious trait that separated them from later formations was the presence of intervals between the companies. These were now suppressed, and the pikemen massed together in the center of the battalion, flanked on either side by musketeers. On campaign, an average battalion contained about three hundred pikemen and one hundred musketeers. Henri's battalions were also designed to support each other in line or in a checkerboard formation. This alteration of French tactics, which so resembles the work of Prince Maurice, occurred at roughly the same time as, or even predated, the Dutch reforms. After 1600, the French further reduced the ranks of infantry from ten to eight.⁹ In sum, the French had independently evolved units of similar size, composition, and disposition before they came under the influence of Dutch practices. Consequently, the imitation of Dutch formations could hardly have brought a "military revolution" in Roberts's sense.

⁵ Edouard La Barre Duparq, *Histoire sommaire d'infanterie* (Paris, 1853), 29.

⁶ Oman, *The Art of War*, 446; Edouard La Barre Duparq, *Histoire de l'art de la guerre depuis l'usage de la poudre*, 2 vols. (Paris, 1864), 2:95.

⁷ La Barre Duparq, *L'Art militaire*, 63.

⁸ The Bibliothèque nationale in Paris contains a fine collection of military handbooks from the sixteenth and seventeenth centuries; the collection was used in preparing this article.

⁹ J. R. Hale, "Armies, Navies, and the Art of War," the *New Cambridge Modern History*, 3:194; La Barre Duparq, *Histoire de l'art de la guerre*, 2:117-20; and Idem, *Histoire sommaire*, 30. In fact, Henri IV's units were somewhat smaller than those used under Louis XIII. F. Reboul, "Des croisades à la Révolution," in *Histoire de la nation française*, ed. Gabriel Hanotaux, tome 7, *Histoire militaire et navale* (Paris, 1925), 1:368. At La Rochelle in 1627-28, the French used fifteen battalions of about twelve hundred men each; see F. de Vaux de Foletier, *Le Siège de La Rochelle* (Paris, 1931), 238.

Nonetheless, there is no question that the French turned to the Dutch, and later to the Swedes, to improve the quality of their foot troops. Maurice enjoyed a European reputation as a soldier-scholar, a brilliant innovator, and a talented general. His skill in all elements of warfare made the Netherlands "the military college of Europe."¹⁰ French commanders of note served in Dutch armies to gain better knowledge of the most advanced military practices of the day. The great Marshal Turenne, for one, a nephew of Maurice, began his military career under the guidance of Maurice and the Prince's brother Frederick Henry.¹¹ In all probability, the work of Maurice was all the more impressive to the French precisely because it reinforced their own tactical development and offered refinements and improvements readily adaptable to French methods.

Louis XIII (1610-43) encouraged technical military reforms in the French army. Even if he possessed neither the dash of a cavalry leader like his father, Henri IV, nor the penchant for military administration and siegecraft typical of his son, Louis XIV (1643-1715), Louis XIII still took a lively interest in tactics and training. Puysegur, a noted seventeenth-century commentator, assessed the king's military abilities fairly highly: "It could be said that he is an able man, knowledgeable in that profession, a man who could pass for a master of it."¹² In 1624 Louis sent the young lieutenant de Pontis to observe the drill and discipline practiced by the *mestre de camp*, Pierre Arnauld d'Antilly, who had fought in Holland, and to render a confidential report.¹³ Model units, such as the Regiments de Champagne and de Rambures, were held out as examples to the rest of the army.¹⁴

A new generation of military handbooks appeared that made Louis's task easier. Du Praissac's *Discours militaires* (1614) already showed the influence of Maurice, but it still regarded huge squares of as many as 4,096 men as valuable tactical formations. Louis de Montgommery, sieur de Courbouzon's *Milice française* (1615) de-

¹⁰ J. W. Wijn, "Military Forces and Warfare, 1610-1648," *The New Cambridge Modern History*, 4:203.

¹¹ Jules Roy, *Turenne, sa vie et les institutions militaires de son temps*, 2nd ed. (Paris, 1896), 56-62.

¹² Quoted in Charles Romain, *Louis XIII, un grand roi malconnu* (Paris, 1934), 67. For a general evaluation of Louis XIII as a soldier, see Romain, *Louis XIII*, 67-78, and Maxime Weygand, *Histoire de l'armée française*. (Paris, 1938), 133.

¹³ Louis de Pontis, *Mémoires*, in *Collection complète des mémoires relatifs à l'histoire de France*, ed. M. Petitot, vols. 31-32 (Paris, 1824), 31:425-34.

¹⁴ Reboul, *Histoire de la nation française*, 368; and Weygand, *Histoire de l'armée française*, 133.

scribed “exercices hollandoises,” but here again great squares predominated. Judging by its advanced tactical system and its numerous editions (at least six are recorded between 1617 and 1641), the most important manual was a work by Jean de Billon, which bore the illustrative title, *Les Principes de l'art militaire, ou il est sommairement traicté de la pluspart des charges et devoirs de hommes qui sont en une armée . . . de l'ordre et motions militaires qui sont observées en Hollande par le Prince Maurice*.¹⁵ Here Billon presented the battalion formation as evolved during the late French Wars of Religion with Dutch refinements in the use of such smaller units.

Just as French officers served under Maurice in the first years of the seventeenth century, so others learned their trade under Gustavus Adolphus in the 1630s. Claude de Le Touf, baron de Sirot, who later commanded the reserve at Rocroi, soldiered through 1632 and 1633 with the victorious Scandinavians.¹⁶ Once the French entered the war openly as enemies of the Habsburgs and allies of the Swedes, this contact with Swedish methods brought further adjustments in French tactics. About 1640, Turenne adopted the Swedish practice of marshaling infantry only six ranks deep. Yet by no means did the French slavishly copy the Swedes. Gustavus had increased both the number and offensive importance of his pikemen, but Turenne reduced the number of pikemen to only one third of the entire battalion.¹⁷

By the mid-seventeenth century, the preferred French method of forming an army was in two main lines. Infantry occupied the center of each line, its battalions standing in checkerboard fashion, with those of the second line standing behind the gaps between battalions in the first. On the flanks stood the cavalry. Ranged behind the two main lines stood a smaller, reserve line of mixed infantry and cavalry.¹⁸

Roberts argues that by the early seventeenth century European

¹⁵ The generally reliable La Barre Duparq in his *Histoire sommaire*, 30, considered it typified French tactical practice. It has been argued that Henri duc de Rohan's *Parfait capitaine* (1636) was the most popular military book of the century: see Henry Guerlac, “Vauban: The Impact of Science on War,” in *Makers of Modern Strategy*, ed. E. M. Earle (Princeton, 1941), 32.

¹⁶ Claude de Le Touf, Baron de Sirot, *Mémoires*, 2 vols. (Paris, 1683), 1:139-40, 193-225, 2:40.

¹⁷ La Barre Duparq, *Histoire sommaire*, 32; Idem, *Histoire de l'art de la guerre*, 2:207-8.

¹⁸ La Barre Duparq, *Histoire sommaire*, 165-66. These arrangements were finalized in such manuals as J. de Laon, *Pratiques et maximes de la guerre* (1652) and Louis de Gaya, *L'Art de la guerre* (1677). De Laon's manual was published under the name LaValière in one edition.

cavalry had abandoned the natural advantages that momentum bestowed upon mounted troops. Instead of turning the tide of battle by charging the enemy with sword or lance, horsemen wasted their potential by drawing their pistols to dicker with the enemy in such unfortunate maneuvers as the caracole. To perform the caracole, a body of cavalry several ranks deep approached the enemy. The first rank fired its pistols, wheeled about, and rode to the rear of the formation to reload; the succeeding ranks fired and wheeled in turn. By the time the last rank had fired, the first would be ready to discharge its weapons once again. The intention was to blow a hole in the enemy square, but when used against infantry the caracole almost invariably cost the attacking cavalry more than the defending infantry, because infantry muskets outclassed cavalry pistols in range and power. Roberts awards Gustavus considerable credit for "the emancipation of cavalry from the caracole."¹⁹ By restoring cavalry to its traditional role of charging, sword in hand, the great Swede gave his armies a tool for decision on the battlefield that his enemies lacked.

Again Roberts's analysis cannot be accepted without challenge. In the case of mounted units, as with infantry, Parker objects that Roberts underestimated the value of Spanish practice. Parker insists that Spanish cavalry, far from being inept, were "as feared and as formidable as the tercios."²⁰ However, it is important to understand that the tactics of the hand gun and the caracole were not seen by contemporaries as Spanish, but rather as German in origin. They were the province of the reiter, the teutonic heavy cavalryman and pistoleer.

When considered in the light of French experience, Roberts's generalizations concerning cavalry bear up under scrutiny somewhat better than do his characterizations of infantry tactics, but they still place too little emphasis on the evolution of tactics within France itself.²¹ French cavalry began the sixteenth century fighting in an essentially medieval style. The *gens d'armes* of the *compagnies d'ordonnance* still charged with the lance in a thin, extended line—*en haie*. A number of factors, including the shortage of proper horses and the loss of traditional military skills among young gentlemen,

¹⁹ Roberts, *Military Revolution*, 8.

²⁰ Parker, "Military Revolution," 199.

²¹ On French cavalry tactics in the sixteenth century, see Reboul, *Histoire de la nation française*, 294-96; Oman, *Art of War*, 462-65; La Barre Duparq, *Histoire de l'art de la guerre*, 155-156, 165-66; and idem, *L'Art militaire*, 37-45.

but primarily the difficulties of defeating unshaken infantry squares with lance-armed cavalry, led the French to adopt the weapons, armor, and tactics of the German reiters by the mid-sixteenth century.

The Wars of Religion witnessed first the triumph and later the decline of reiter tactics among the French. Under Charles IX (1560-74) and Henri III (1574-89) the caracole predominated. To apply this tactic, the French abandoned their traditional formation *en haie* and marshaled troopers in dense formations twelve or even sixteen ranks deep. Pistols, carbines, and blunderbusses served the horsemen who after the fire-fight closed for the melee with sword in hand. Considering the French taste for edged weapons—*l'arme blanche* as they were called—it is surprising to see the *gens d'armes* rely on the pistol as they did.²² But it comes as no surprise that the French did not rest easy with this tactical formula.

The emphasis on firearms as opposed to cold steel certainly did not have to await Gustavus to find its critics. The tactical debate was well under way by the end of the sixteenth century, as works of the Huguenot la Noue and the royalist Tavannes attest.²³ By temperament and professional conviction, Henri IV could not accept the sterile caracole. He reshaped French cavalry formations and tactics, reducing the depth of squadrons to six ranks, and even to five. At Coutras (1587) and Ivry (1590) his cavalry used their firearms for an initial shot, but then charged home with the sword at the gallop. In accord with the counsel of la Noue, Henri demonstrated that in shock attack the six-rank formation was superior to cavalry drawn up *en haie*, as the royalists were at Coutras. To bolster his cavalry, Henri also interspersed companies of musketeers between his squadrons, a practice that continued throughout the Thirty Years' War.

Thus by 1600 the French were already moving toward the tactics advocated by Gustavus a quarter-century later. What influence Gustavus exerted upon French cavalry was restricted to significant but not radical adjustments, such as the Swedish practice of forming cavalry in three ranks and of discharging pistols at a greater distance from the enemy than Frenchmen were accustomed to doing. Under Louis XIV, French cavalry did adopt a depth of

²² Concerning the French fascination with *l'arme blanche*, see John A. Lynn, "The Military Resurrection of the Pike," *Military Affairs* 41 (February 1977): 1-7.

²³ See François de la Noue, *Discours politiques et militaires* (Basle, 1587) and Gaspard de Saulx, Seigneur de Tavannes, *La Vie de Gaspard de Saulx, Seigneur de Tavannes*, in *Collection complète des mémoires relatifs à l'histoire de France*, ed. M. Petitot, vols. 23-25 (Paris, 1822).

three ranks as the Swedes had before them, but this hardly constituted a revolutionary change in their techniques.²⁴

Roberts claims that Gustavus Adolphus “revolutionized” missile support “by the use of a light three-pounder gun” and by “decisive improvements in the mobility of field artillery.”²⁵ The chief factor that limited cannon on the battlefield during the sixteenth and seventeenth centuries was their weight. Artillery trains possessed neither their own draft animals nor their own teamsters; instead, armies hired civilian drivers and their teams to haul cannon. On the day of battle these civilian contractors would drag the heavy pieces into position and then withdraw out of harm’s way. Once in place the cumbersome cannon could not be shifted to keep pace with the movement of the action. Roberts credits Gustavus with developing light pieces that could be manhandled to support advancing infantry. Without abandoning the larger calibers, Gustavus multiplied the numbers of three-pounders and attached one such light cannon to each infantry battalion. In France these close support weapons went by the name “regimental guns.”

To assess development in France according to Roberts’s standards, at least the calibers and deployment of artillery deserve close attention. Turning first to calibers, a survey of French efforts at standardizing the sizes of artillery pieces reveals that lighter guns were an important part of the French arsenal from the start. At the beginning of the reign of François I (1515-47), the French possessed a bewildering variety of at least seventeen calibers; he later cut the official number to eight. Henri II (1547-59) further reduced the system to the “six calibers of France,” which included guns firing projectiles of 33 pounds 4 ounces, 15 pounds 2 ounces, 7 pounds 2 ounces, 2 pounds, 1 pound 1 ounce, and 14 ounces.²⁶ Admittedly, attempts to standardize military practices in the sixteenth and even the seventeenth century were just that—attempts.²⁷ Though the

²⁴ On cavalry organization and tactics in the seventeenth century, see Reboul, *Histoire de la nation française*, 368-72, 439-41; La Barre Duparq, *Histoire de l’art de la guerre*, 211-12; and Louis Auguste Brusane, *Histoire de la cavalerie française*, 3 vols. (Paris, 1874).

²⁵ Roberts, *Military Revolution*, 8.

²⁶ On the matériel and organization of the French artillery during the sixteenth and seventeenth centuries, see Reboul, *Histoire de la nation française*, 274-79, 296-97, 372-73, 441-43; Jean Brunet, *Histoire générale de l’artillerie française*, 2 vols. (Paris, 1842); and Louis Auguste Susane, *Histoire de l’artillerie française* (Paris, 1874).

²⁷ It is important to recognize the bewildering confusion of reality. In 1666, for example, pieces of 38, 28, 26, 24, 14, 9, 8, 6, 5 pounds were found at the fortress of Pignerol. Louis André. *Michel Le Tellier* (Paris, 1906), 518.

confusion of reality did not yield easily to the rationality of system, it is important that efforts were made to standardize and simplify. Not too surprisingly, the turmoil of the Wars of Religion witnessed a breakdown of Henri II's rather neat system. With the return of peace, Henri IV, and more particularly his able minister Maximilien de Bethune, duc de Sully, labored to standardize artillery matériel. As grand master of artillery, Sully strictly regulated the French pieces to calibers of only 34, 24, 16, 12, 8, and 4 pounds.²⁸ On close examination, then, it is plain that the French had a long tradition of light mobile artillery pieces, stretching back to the falcons of Charles VIII (1483-98).²⁹

As for the deployment of light cannon, admiration for Swedish victories and contact with the great Gustavus Adolphus and his able lieutenants did lead the French to imitate the Swedish use of regimental guns. French regimental pieces proliferated after 1635. As early as 1636 the French used small regimental pieces to good advantage in resisting the Spanish at the Somme. At the high point of this enthusiasm for regimental guns, French troops employed five types of four-pounders and several varieties of three-pounders.³⁰

However, the historian of artillery, Brunet, called this emphasis on small regimental pieces "une affaire du mode" that caused the French to neglect their artillery parks, the central assemblage of cannon directly under the general's control.³¹ The vogue for regimental pieces enjoyed only a short life. From about 1643 on, regimental pieces disappeared to the relief of major artillery officers who wished them returned to the parks. At the same time, the French reestablished Sully's system of guns—though light cannon clearly predominated—so that four- and eight-pounders made up the majority of guns in the artillery parks of Condé and Turenne.³²

One is forced to reach the conclusion that Roberts's claim that Gustavus introduced the wide use of light cannon and won Europe over to the use of regimental guns seems at best an overstatement of the case for France. Viewed with the hindsight of military history, there were good reasons why Gustavus's system of light regimental guns would not become a European standard. Two conflicting pressures drove artillery development, presenting seventeenth-

²⁸ Reboul, *Histoire de la nation française*, 372.

²⁹ Reboul, *Histoire de la nation française*, 372, makes precisely this point.

³⁰ Brunet, *Histoire générale*, 2:57.

³¹ *Ibid.*, 65.

³² *Ibid.*, 87-88.

century artillerists with a serious dilemma. Battlefield tactics required lighter, more mobile pieces, but the ever greater importance of fortification and siege warfare demanded cannon capable of firing heavy shot great distances. Artillery thus split more and more into two categories, field and siege. As siege warfare came to predominate in the second half of the century, there were real advantages to constructing even field artillery with barrels long enough and chambers thick enough to launch shot effectively against the walls of a fortress. Thus, the extremely light and short-barreled cannon popularized by the Swedes possessed certain inherent limitations, and it is little wonder the French returned to the more substantial pieces advocated by Sully. To this extent, the impact of Swedish practice on seventeenth-century artillery was doomed to be short-lived.

Before leaving the subject of artillery, it is interesting to note that the "military revolution" did not bring a great increase in the number of cannon that a French army of given size would employ in battle; that is, the ratio of guns per thousand soldiers stayed relatively constant. During the Italian wars, French armies dragged along an impressive number of artillery. At Marignano in 1515 François I is believed to have had seventy-two guns for his army of 30,000, or 2.4 guns for every thousand men. Twenty-eight years later at Ceresole, twenty cannon added firepower to the 13,000 French troops who fought that day, this being about 1.5 guns per thousand. The Wars of Religion witnessed a decline in the heavy use of artillery, probably owing to the limited resources available to all parties. For example, at Dreux, the Protestants had five guns for 11,500 troops, dropping the ratio to .43 guns per thousand troops. The seventeenth century saw a return to the intensive investment in artillery that had typified the French before the Wars of Religion. At Rocroi in 1643 the future Great Condé had twenty cannon for 21,000 men, or .95 per thousand troops. The number of guns seems to have stabilized around this level for the rest of Louis XIV's reign. In 1674 at Enzheim the French had thirty guns for 22,000 troops, and though they may have had as many as ninety guns for 60,000 at Blenheim in 1704, at Malplaquet in 1709 only eighty pieces served an army of 100,000 men.³³ Obviously the num-

³³ Figures for the numbers of cannon employed have been taken from Frederick Lewis Taylor, *The Art of War in Italy, 1494-1529* (Cambridge, 1921), 92; Reboul, *Histoire de la nation française*, 299; La Barre Duparq, *L'Art militaire*, 22-24; David Green, *Blenheim* (New York,

ber of pieces increased as army size swelled, but the ratios remained constant.

French developments in weaponry, organization, unit size, and the broad outlines of tactics were clearly evolutionary products in which native currents played a preeminent role. Doubtless this evolutionary process was significantly modified by French adoption of Dutch and Swedish styles and refinements; however, as significant as that influence was, it brought adjustments, not fundamental transformation, in the categories discussed above. Yet to deny the radical impact of certain aspects of Dutch and Swedish technical innovation is not to argue that all of it falls short of qualifying as revolutionary. Quite the contrary, viewed from the French perspective, the Dutch creation of drill in particular rates as an absolutely crucial innovation with profound implications both on the battlefield and beyond it.

Drill developed by Maurice and further extended by Gustavus enabled maneuver and a rate of fire unknown before.³⁴ This promise of tactical effectiveness lured French officers to the Netherlands and northern Germany where they might learn the craft of war from the Dutch or the Swedes. In addition, drill had other, less direct consequences, for it uniquely combined training with discipline.

It is fair to say that in a certain sense training and discipline were not integrally linked to each other until the seventeenth century. Certainly, monarchs and commanders of the fifteenth and sixteenth centuries had viewed training as important, and when the need arose, great effort might be expended to train troops in a new system of warfare. A good example is the training camp established by Louis XI (1461-83) at Pont-de-l'Arche, where French infantry *bandes* received instruction from Swiss mercenaries.³⁵ Yet training was regarded as a one-shot affair. It went no further than teaching weapons-handling and combat technique, and once troops had mastered their weapons and learned how to stand for battle, their training was considered to be complete.³⁶ Few argued that there was any need for constant practice.

1974), 69; and E. Lavissee et al., *Louis XIV (1685-1715)*, tome 8, part 1, *Histoire de la France*, ed. E. Lavissee (Paris, 1908), 118.

³⁴ In his provocative "Middle-Class Society and the Rise of Military Professionalism: The Dutch Army, 1589-1609," *Armed Forces and Society* 1 (1975): 419-42, M. D. Feld states that Maurice has to share credit for drill innovations with his cousin, Louis of Nassau.

³⁵ Louis Auguste Susane, *Histoire de l'infanterie française* (Paris, 1876), 1:54-55.

³⁶ See *ibid.*, 174-75 on the minimal nature of training and drill. See as well William H. McNeill, *The Pursuit of Power* (Chicago, 1982), 128.

At the same time, discipline was seen as a question of control and restraint. Most contemporary references to discipline, or the lack of it, stressed the need to limit pillage and to ensure the good conduct of troops quartered on the civilian population.³⁷ Surprisingly little was said concerning the need for obedience in battle; it seems that discipline was not a combat issue of the first order.

Dutch drill united training with discipline in the name of maximizing the battlefield assets of maneuver and firepower by minutely regulating the action of the troops. To achieve this end, troops required constant practice responding to commands under the watchful supervision of their sergeants and officers. It is not stretching a point to say that in the name of tactical necessity, drill ingrained habits of obedience which affected the soldier's conduct and heightened the officers' control on and off the battlefield.

Under the direction of Maurice of Nassau, Dutch infantry learned to maneuver in cadence and in step as the ancient Romans had.³⁸ Though the square formations of the sixteenth century could present a strong face to all four directions, they had done so at the cost of wasting manpower, for relatively few weapons could be brought to bear to the front. Formations were thus solid but inefficient. Linear tactics, such as those employed by the Dutch, made the most of manpower by facing all weapons to the front in relatively thin formations. However, a threat to the flank or rear posed a serious problem. Linear formations claimed greater efficiency then, but they were more vulnerable if taken off guard. The best way to overcome this intrinsic disadvantage was to train troops to maneuver under fire, so that they could face front to flank or rear, whenever they were threatened, without losing their cohesion. Dutch drill rendered such maneuvers reliable and rapid.

Under the leadership of Maurice and Louis of Naussau, the Dutch regulated and improved the use of the pike and the loading and firing of the arquebus and the musket. Maurice broke down the handling of weapons into a series of steps and trained troops to perform these in strict sequence. (There were thirty-two steps for

³⁷ For some interesting comments on the problem of controlling troops during quartering see de Pontis, *Mémoires*, 32:95-96 and La Popelinière in Susane, *Infanterie*, 1:160.

³⁸ Concerning the original character of Dutch drill, including the use of marching in step, see Roberts, *Military Revolution*; Feld, "Middle-Class Society"; and McNeill, *Pursuit of Power*, 126-34. Regarding the Roman influence on Maurice's thought, the best comments are in Feld, "Middle-Class Society," 437-38.

the pike and forty-two for the arquebus and the musket.) As an aid to instruction, Johann II of Nassau, another cousin of Maurice, commissioned an illustrated manual that presented this system of positions and steps in engravings and descriptions. When this *Wapenhandlinghe van Roers, Musqueten ende Spiessen*, by Jacob de Gheyn, appeared in 1607 it became a cornerstone of military tactical reform and went through many editions and translations.³⁹ A French edition, published in Amsterdam, appeared in 1608.

Maurice also introduced a finely choreographed countermarch for his musketeers.⁴⁰ This countermarch established the pattern by which musketeers, who generally stood six ranks deep, would fire, about face, retreat to the rear rank, and then reload while advancing again, so as to be ready to fire once more when they reached the front rank. Timed properly, the countermarch insured that a formation could spew out a constant hail of shot against the enemy.

The French had not developed a native tradition of military drill, and they in fact adopted it in imitation of the Dutch.⁴¹ Under Louis XIII the French instituted weekly drill; this and other reforms in discipline, training, and administration were formalized as the Code Michaud of 1629.⁴² In 1639 the king established the Académie royale des exercices de guerre, to which captains and *mestres de camp* could send newly levied men to be drilled.⁴³ This momentum accelerated during the reign of Louis XIV. An ordonnance of 1661 increased required drills to twice a week and ordered maneuvers for entire garrisons once a month.⁴⁴ In 1667 the office of inspector general for infantry was created and filled by Jean Martinet, whose name has become a byword for rigorous discipline and drill.⁴⁵ In 1663 the régiment du Roi was created as a showpiece and experimental regiment, and Martinet virtually ran it himself.⁴⁶ Camps of

³⁹ For discussions of this crucial book, see *ibid.*, 423-25. A facsimile reproduction on this work was published by McGraw-Hill in 1971.

⁴⁰ On the countermarch see McNeill, *Pursuit of Power*, 129, and Feld's characterization of the countermarch as a technique of "continuous production," in "Middle-Class Society," 425.

⁴¹ Eugène Carrias, *La Pensée militaire française* (Paris, 1960), 117, calls Maurice, "le créateur du drill."

⁴² *Ibid.*, 113.

⁴³ Jules Caillet, *De l'administration en France sous le ministère du Cardinal de Richelieu* (Paris, 1857), 376-77.

⁴⁴ André, *Le Tellier*, 399-401.

⁴⁵ André Corvisier, *Louvois* (Paris, 1983), 187-89.

⁴⁶ Carrias, *Pensée militaire*, 143.

instruction were tried in 1666, 1669, and 1670, then held annually from 1679 to 1683.⁴⁷

A great deal has been made of the significance of drill beyond its obvious technical merits, and I would like to add my own speculations to the list.⁴⁸ I am convinced that the wider implications of drill laid the foundations for two important military institutional developments in seventeenth-century France. First, the superior control of troops that resulted from drill facilitated the tremendous growth of the French army after 1610. For armies to grow, they had to be manageable. On the one hand, manageability required the state to develop the administrative capacity to service armies of unprecedented size. On the other, the troops had to be kept under close and effective supervision, so that these new, larger armies did not pose a great threat to the very population that supported them. This entailed discipline bred of drill.

Second, the French army was called upon to control civil riot and rebellion in the seventeenth century, turmoil generally linked to resistance against the taxes raised to support the ever greater military establishment of France. Regiments were even rotated through France in order to show the flag and thus cow a potentially rebellious population.⁴⁹ For troops to fulfill this function of civil control without alienating a populace that the monarchy wished to woo as well as to intimidate, the troops had to display greater discipline than had been typical in the past. Drill can only have increased the level of officer control and troop discipline among royal forces. Unbridled, rapacious troops could frighten the populace into resentful obedience, but in the long run they would have been as likely to create further resistance as to foster compliance. For this reason among others, the absolutist monarchy required effective and obedient battalions.

If this logic holds, it suggests that there was indeed a necessary link between the technical side of the "military revolution," an aspect of the revolution denied by a critic like Parker, and the expansion of

⁴⁷ Reboul, *Histoire de la nation française*, 445.

⁴⁸ See Feld, "Middle-Class Society" and McNeill, *Pursuit of Power*, 130-33, for some particularly thought-provoking comments on the importance of drill beyond the tactical field. See Michel Foucault, *Discipline and Punishment*, trans. Alan Sheridan (New York, 1979), 152-156, 187-88 on the social implications of drill and discipline as well.

⁴⁹ Claude Sturgill, "Changing Garrisons: The French System of *Etapes*," paper presented at the 1984 meeting of the Southern Historical Association.

the army, the growth of military bureaucracy, and the regularization of administrative practice, which all scholars are apparently willing to accept. That link may not have operated exactly as Roberts has suggested it did; however, it was there and it was important. For this and other reasons, the technical aspect of Roberts's theory of the "military revolution," flawed as it may have been in its original formulation, still demands our attention as something more significant than just an interesting footnote in the bibliography of academic military history.