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RUSSIA AS A GREAT POWER, 1709-1856: REFLECTIONS ON THE PROBLEM OF RELATIVE BACKWARDNESS, WITH SPECIAL REFERENCE TO THE RUSSIAN ARMY AND RUSSIAN SOCIETY

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INTRODUCTION

From Peter the Great's defeat of Charles XII at Poltava (1709) to the present day Russia has usually enjoyed, and always sought the role of a "great power" in the international area of the day, first Europe-wide and ultimately world-wide. Both in terms of the underlying realities of power and the idea others have had of Russia there has always been an element of the paradoxical in this usually real or sometimes pretended status. On the one hand there was the image of great armies ready to respond to the whim of sovereign authority, backed up by enormous, but unspecified natural resources. On the other hand Russia was regarded and indeed still is at times regarded as backward, crude, savage, barbaric, and so forth. In other words, not fit for comparison with other powers, except when they are confronted with the need to deal with actual Russian power in concrete terms.

The reason for this paradoxical attitude was and is, of course, that both estimations are correct, if not complete. Russia was backward compared to the West in 1709 and is so today in many important respects, particularly in ways that are sure to be noticed by the cultured and sophisticated visitors who are likely to write about it. Yet the reality of Russian power is undeniable, despite low points in 1856 and in 1917 which have proven to be

relatively short-lived. A sober British military historian writing in the 20th century can describe the Russian army fighting in Switzerland in 1799 as, ". . . a barbarian force trained to fight with civilized weapons, extraordinarily ignorant and careless, formidable to any enemy which it could reach with Suvorov's favorite weapon, the bayonet or cold steel, but liable to suffer much from the fire of the agile French, who slipped away from its charges."[1] The interesting thing about Phipps' comment is that the tactical differences described, the bayonet charge by a compact column of men vs. fire from a dispersed and relatively more mobile infantry force have nothing to do with "barbarity" or "ignorance." Both were accepted techniques of late 18th century warfare. The choice between the two differing techniques may well reflect significant differences in the armies of Russia and revolutionary France, but they are not matters that can be attributed to "barbarity." Certainly the armies of both Suvorov and Korsakov in Switzerland lived off the land (i.e., pillaged) to an extent that horrified both the victimized Swiss population and contemporary observers such as the representative of the English king, William Wickham, Phipps' main source on Russian matters.[2] That, however, is another matter and has nothing to do with the tactical differences described by Phipps. One might even argue that the living off the land anticipated the practices of the revolutionary era, whether or not it was "barbaric."

Wickham is indeed a fine example of the ambivalent attitude of Western observers toward Russia in the 18th century and in more recent years as well. In describing the defeat of Korsakov at Zurich he writes of the Russian troops:

> Without having seen it, it is not possible to have an idea of the manner in which the Russian infantry behaved. In the course of the morning I had the opportunity of conversing with military men of different services, who all agreed in saying that nothing they had ever seen was at all to be compared to it either for steadiness under fire, or boldness and rapidity of attack.[3]

The same Wickham however revealed a profound prejudice to anything "Eastern" when he wrote a few weeks later of a meal he had at Suvorov's headquarters: "The dinner, the whole manner of serving it, and above all the servants who attended, were so very dirty and disgusting that General Jelachich, though a Croat, could not bring himself to eat a single mouthful."[4] Thirty years earlier an English representative in St. Petersburg exhibited a severe case of culture shock when he complained to the Duke of Grafton that Russia was "not civilized," that it was like "Thibet or the domain of Prester John."[5] Similar examples could be multiplied from almost any period. The point is that because Russia was unquestionably different from Western Europe in significant ways, it was and is difficult for Western observers to apply the usual standards of judgment to her. If the Russians win a battle or a war it was because of "barbaric strength" or some such meaningless phrase conjuring up visions of hordes from the east overwhelming the decadent

West. Or the Western loss is excused on the basis of some "unique" factor: the weather (Napoleon), the incompetence of the opponent (all the Turkish wars), the errors of the opposing general (Charles XII), the diplomatic alignment of the powers (The Seven Years War) and so forth. Of course when the Russians did lose it was easy enough to explain it in terms of backwardness or ignorance. None of these explanations offer a useful approach to understanding how Russia was able to play the role of a great power for so long yet seemingly remain so "backward" in so many respects.

The bottom line in war is winning. For whatever reasons, Russia did just that in virtually every conflict she entered from the Great Northern War of Peter the Great (1700-1722) to the defeat in the Crimea in 1856 (the major exceptions are the defeat of Peter I by the Turks on the Pruth in 1713, and the short-lived Napoleonic success leading to the treaty of Tilsit in 1807). Whatever unique factors may have been involved in each case, and there are always unique factors, wars are never fought with every factor balanced so the "best" side wins. One must try to explain roughly 150 years of military success in terms of Russia's resources, organization, technology, motivation and so on. It is simply absurd to think of 150 years of good luck that made the special circumstances in every case turn out in Russia's favor. Of course, nobody says that point blank but the lack of alternative systematic explanation, plus the

tendency to explain each individual success solely in terms of special circumstances implies such an absurd conclusion.

What factors need to be considered in a systematic examination of what enabled Russia to be a great power, and what did this effort mean for Russia itself? They can be grouped under the following headings: 1) the quality of resources, human and material available; 2) the ability of the state to divert these resources from private to public (i.e., military) use; and 3) the quality of the military effort made. Was it superior or inferior to those of the West in what manner and why? Exhaustive and definitive answers to these broad queries are beyond the scope of a short essay but we shall attempt the beginnings of answers in all three areas.

CHAPTER I

SIZE OR QUANTITY OF RESOURCES

In terms of overall area Russia was, of course, very large, but except in defensive warfare that was a disadvantage, because of the great difficulty of transport and communication in the pre-industrial era. It was as far from Moscow to the Western border of Russia in the late 18th century as it was from Paris to Budapest. From Moscow to Warsaw was well over 700 miles and from there it was still another three hundred odd to Berlin. Even by eighteenth century standards Russian armies moved slowly. Early in the Seven Years War the average was 1.5 to 3.7 miles a day over periods of several months. Later in the war the average approached ten miles. Frederick the Great could manage 15 miles a day during the same conflict. At the end of the century, Suvorov, noted for his speed in moving his armies, supposedly averaged 21 miles a day during the Italian campaign. Clausewitz, writing after the Napoleonic wars, says that 15 miles a day (or ten over long periods) is all that could be expected on level territory and that the maximum that could ever be reached was 25-30 miles a day in a forced march that could not continue more than a day or two.[6] Thus a march from Moscow to Warsaw would require 70 days or from Warsaw to Berlin about 30 days at ten miles a day. Of course Russia could station troops

near the frontiers, but at some time or other the men and supplies had to be brought from the interior except for the relatively small portion that could be drawn from the immediate area. Until the partition of Poland and the annexation of the Crimea in the late 18th century, Russia's frontiers were at a considerable distance from those of her likely continental opponents, Prussia, Austria, and Turkey. Only Sweden, after 1722 a secondary power, bordered directly on Russia. Merely getting her forces to a potential battle field was a formidable task for Russia in the pre-railroad age. Not only were the distances greater than farther west, but the territories involved; both within Russia and on her borders were relatively poor and thinly populated compared to Western and even Central Europe, making it more difficult to obtain supplies en route. Transport of supplies meant horses and horses required fodder, which, because of its bulk and weight had to be acquired locally. That, not the discomfort of the cold, was the primary reason that winter marches or campaigns were rare and brief. Russian peasants had always taken advantage of the snow-smoothed frozen roads to move their goods by sled but feeding the few animals involved from local resources was an entirely different matter than finding fodder for thousands of animals from the limited stores of a poor and scattered local population. The Russians' unopposed march from Tilsit to Koenigsberg in January 1758 was regarded as an exceptional feat.[7]

That Russian armies had to go farther in order to fight meant not only that they needed more time, but more men as well. Losses to disease were high. Once out of friendly territory large numbers of men had to be used to protect lines of communication. Exactly how great such losses were depended on the particular circumstances: the weather, the length of time involved, but it was always substantial. Napoleon's army invading Russia lost 95,000 men to non-battle causes in 51 days from June 24th to August 15th, 1812, and on the eve of Borodino on September 7th the original 450,000 were reduced to 133,000.[8]

Russia therefore needed to maintain a larger army than her neighbors simply to remain on an equal footing. It is particularly in the matter of population that we are accustomed to think of Russia having an overwhelming advantage. In the early and mid-18th century this is simply not the case however one looks at it. Despite the uncertainty of population statistics and data on the size of armies it is clear that in 1750 the Russian army and the Russian population were roughly the same as those of France. Austria had more population per soldier than either France or Russia. Prussia, of course, was far smaller and to field an army half the size of France's or Russia's had to mobilize a far larger portion of its native population plus a large number of non-Prussian recruits. The army as a percentage of population was identical for France

and Russia (1.5 percent), significantly lower for Austria (1.0 percent) and much higher for Prussia (4 percent) (see Table I).

Under 18th century conditions gross population was simply not a limiting condition for the larger powers. The social, political, and economic changes of the revolutionary period enabled France to mobilize far larger armies than those of the Ancien Regime. Russia, with a totally unaltered social, economic, and political system was able to do the same. As long as armies operated in the field as single units and fought according to the classic linear tactics of the mid-18th century there were real practical limits on the numbers of troops that could be used at one time in battle or could be moved from place to place without the collapse of the supply system.

In order to march along roads the 18th century army was formed on long columns only a few men wide. In order to bring the firepower of its muskets to bear on the enemy it deployed into long thin lines only two or three men deep on the battlefield, of necessity a relatively open and level place. This was a slow process and once accomplished the army could move only with great difficulty. A force of 60,000 men in line was five to six miles wide.[9] There was a limit on the length of line that could be managed. To reform the line angled in another direction was extremely difficult. Frederick the Great was able, repeatedly, to defeat superior forces by

TABLE I

POPULATION AND SIZE OF ARMY; MID-18th CENTURY

	Population	Army	Army as % of Population
Russia	21,559,000[1]	292,000[a]	1.3
France	22,000,000[2]	330,000[b]	1.5
Austria	18,300,000[2]	200,948[c]	1.1
Prussia	3,659,437[3]	155,000[d]	4.2

1) Kabuzan, p. 164 (1756 est.)

2) Jerome Blum, The End of the Old Order in Rural Europe, p. 241.

3) Handwörterbuch des Staatswissenschaften, II (1899), p. 661, including Silesia.

a) Zhuravskii, in Voennyi sbornik, 1859, no. 9, p. 57.

b) Kennett, p. 77 (average, 1757-62).

c) Duffy (1977), p. 170 (1756)

d) Beskrovnyi (1958), p. 266 (1756).

placing his line at an angle to one end of his opponent's line and attacking quickly, thus concentrating his force on one part of the enemy who could not wheel his remaining forces around quickly enough to save the day. Frederick could do this because his men were drilled to deploy from column to line more rapidly than any of his rivals.[10] Only at the end of the century when armies were divided up into divisions that moved by parallel routes and united at the battlefields, and battles were fought with more flexible units, light infantry operating in small units and attack columns, was it possible to use much larger forces.

It was also true that the old regime monarchies in the West could not afford larger forces. The sovereign had limited ability to collect revenue and to mobilize his subjects. Substantial, although widely varying proportions of the West European armies were foreign mercenaries who often joined for the enlistment bonus and hoped to desert at the earliest opportunity and repeat the process. Soldiers, native or foreign, were not expected to fight with enthusiasm or dedication to a cause. The kind of soldier that composed the 18th century army could only be used where there was constant supervision and each action was the product of constant repetition and harsh discipline. The long thin line had evolved from the more compact formations of the previous century as the best way to maximize the effective firepower of men armed

with muskets. As the limitations and weakness of armies deployed in thin inflexible lines became apparent new techniques were developed, or at least proposed, but it was only with the social and political changes attending the French revolution that they could be fully realized.[11]

In the mid-18th century when the gross size of armies was relatively unimportant, Russia's population was comparable to that of France or Austria. By the early nineteenth century when numbers came to mean much more, and the old limits on the numbers of men that could be mobilized in the West had broken down, the growth of the Russian empire and the natural increase had pushed the Russian population to about one and a half times that of those other powers. Thus Russia in 1812 could compete with the Napoleonic armies by mobilizing roughly the same proportion of the population as it had in the past. By then overall size had become a significant advantage.

Armies are not only men. They must be supplied with food, clothing, and equipment. In the present day we automatically think primarily in terms of the last of these three, weapons and munitions. We are all too familiar with the overwhelming cost of planes, tanks, modern explosives and so forth. Uniforms and food for those who use modern weapons have become a relatively minor matter. The "backward" countries of our own day are largely dependent on the "advanced" ones for military equipment. Russia unquestionably had

great difficulty in producing the equipment needed in the late 19th and early 20th century. In the eighteenth century and probably at least down to the mid-nineteenth century the situation was entirely different. The technology of weapons remained essentially constant throughout the 18th and well into the 19th century. Peter the Great, Frederick the Great, and Napoleon fought their wars with very much the same equipment.

The military hardware of the day was simple, muskets, cannon, and bayonets and, with static technology, weapons did not become obsolete and individual pieces lasted a long time. Muskets were expected to last at least 40 years and many were in service much longer. The Commander of the Litovskii Regiment reported in 1802 that his men had muskets that went back to 1700.[12] Presumably the commander was not boasting about the antique weapons in his arsenal but even if we assume that the average life of a musket was only 20 or 30 years it puts the problem of equipping an army into new perspective. Armies in the eighteenth century were rarely destroyed or forced to abandon their hand weapons so once a reasonably large arsenal was built up, the demand for new muskets was confined to replacements and enough to match the slow increase in the total size of the army, from about 200,000 in 1719 to around 450,000 in 1795. Artillery, because it was hard to move, was more frequently lost when a battle was lost. As early as 1710 an Austrian diplomat in Russia reported to his government that it was no longer

necessary for Peter's government to import muskets because there were now ample supplies made from domestic iron.[13] Certainly when there was a rapid increase in the size of the army, as between 1740 and 1756 (from 240,494 to 344,000) there may well have been temporary shortages or the need to import some additional weapons, although I have found no specific evidence of such occasions. On the whole it is evident that shortages of muskets were not a significant problem for the Russian army in the pre-industrial era. Over the 41 year period from 1737 to 1778 the main state arsenal at Tula produced 573,369 basic infantry muskets, an average of nearly 14,000 a year, plus over 200,000 firearms of other types. These figures seem consistent with the notion that Russia was self-sufficient in hand guns.[14]

The artillery, except for siegecraft, was the most technologically advanced division of warfare, both in its employment and in its manufacture. If technological or economic backwardness were a major factor in Russian military affairs there is where it would presumably be the most evident. In fact it is particularly in this area where Russia earned early and continued distinction. As early as 1705 the English Ambassador, Charles Whitworth, comments on the high quality of Russian artillery and the tradition seems to have been maintained down through the 18th century, during the Seven Years War, and into the Napoleonic period and even through the Crimean War.[15]

The production of cannon occasioned somewhat more difficulty than the production of muskets but the important point is that from Peter's time onward the Russians managed it, indeed they had gotten off to a good start well before the 18th century.[16] Russia had a more than adequate supply of pig iron from the early 18th century onward, drawn largely from the large ironworks in the Urals and smaller centers more convenient to Moscow and St. Petersburg. Some of this iron was exported in unfinished form, a fact that is sometimes misleadingly cited to support the contention that Russia was in some way an industrial leader in the 18th century. The techniques of smelting iron ore were actually not particularly difficult, and once learned the scale of production depended on the amount of ore, charcoal, and cheap labor available, commodities that were readily at hand in the Ural area. Making reliable cannon, particularly the larger sizes in large numbers, was considerably more difficult than simply producing pig iron. Casting iron guns that would not crack or burst when fired was a task that required an experienced master foundryman whose knowledge was intuitive and not based on any readily reproduced application of metallurgical chemistry.[17] As late as the 1780s Russia was still importing foreign experts to help set up new cannon foundries. Nevertheless, despite the myriad difficulties with local labor, inconsistent government policies, foreigners who were often far from virtuous and

sometimes incompetent, and so forth, enough cannon were produced to maintain the reputation of the Russian artillery in wartime.

Although there were changes in design, including attempts to lighten the overall weight of field pieces, and standardize calibers, the basic nature of the weapon did not change and once cast it has a long useful life. The production of cannon and of muskets like that of iron itself was a task that could be accomplished with a tiny handful of skilled men, whether or not some of these were foreign does not really matter, supported by a larger force of unskilled peasant laborers. The scale of the whole operation did not impinge on the economy as a whole or require changes in the social order or the general level of education. Only in the remote Ural area where the iron smelting industry was locally quite significant did it disturb the traditional order. But that industry remained isolated and ultimately stagnated when it was unable to shift from charcoal to coke in the early 19th century. Russia was able to meet its needs for military hardware without great difficulty for nearly 150 years but also without making any important change in any aspect of the economy except the most narrowly defined and locally specialized production facilities.

A more difficult problem for Russia than arming her troops was clothing them. Not only did the severe climate require warm garments but the fashions and style of warfare in the 18th century

required standardized and reasonably handsome uniforms. The tactics of the age regarded the individual soldier as a cog in a machine and certainly each cog should look the same and add to the overall appearance of the machine. Peter the Great was the first Tsar to require all Russian soldiers to wear specified uniforms. Prior to Peter only certain special regiments had uniforms and the mass of gentry cavalry wore whatever they liked.[18] One of the major industrial achievements of the Petrine era was to make substantial progress in the development of a woolen textile industry that could meet the army's demand for coarse cloth. The demand was so large, however, that it was not until the 1760s that domestic production was sufficient, but from time to time the demands of war-time military expansion required imports from abroad. Only in 1824 was the government finally able to announce that the problem of cloth supply for the army and navy had been solved "forever." Very much like the Ural iron industry which became technologically obsolete in the early 19th century, the woollen cloth producers were technologically conservative, depended on state orders and were unable to compete in the civilian market which demanded finer fabrics. Ultimately it was in cottons, not woollens, that the first modern textile industry developed in Russia in the early 19th century. "Soldiers cloth" as the coarse wool was called was produced in small factories scattered around the countryside on the estates of nobles, or where villages

of state peasants had been turned over to merchant entrepreneurs early in the 18th century. Far from becoming foci for further industrialization or urbanization they tended to revert to agriculture when more modern techniques were introduced into the industry in the mid-19th century.[19]

The production of cloth for uniforms contributed to one of the few significant agricultural innovations of the pre-emancipation Russia, the introduction of large scale sheep ranching in the new territories near the Black Sea that were annexed in the late 18th century. It was, however, a localized phenomenon sponsored by a few great nobles and it had little impact on Russian agriculture and rural society as a whole.

The remaining supplies required by the Russian army were obtained either from a few specialized state sponsored enterprises, as in the case of gunpowder which served their purpose without having a significant impact on society or the economy as a whole, or the needs for leather goods and the like were met from the existing small scale handicraft industry with the Russian merchant community acting as middlemen.

The basic point in this discussion has been that Russia was able to supply its army with the needed equipment and supplies despite its backwardness. There were difficulties, but none that insurmountable and after the initial convulsive efforts during the

reign of Peter I the effort needed to maintain reasonable levels of supply were by no means extraordinary. The industries that met these military demands in the 18th and early 19th centuries were either state-owned or totally dependent on state orders and they were, on the whole, technologically static. The industries that became the first examples of modern factory production in Russia, cotton textiles, a mechanized woollen industry, and the production of beet sugar, were all examples of industries that grew up without direct state purchases or control, benefitting only from the indirect support of the protective tariff.[20] At least until the Crimean War Russia was able to field a highly successful and effective army without seriously changing her economic system or developing anything that could be called a modern industrial capacity, even by contemporary standards. By the time of the Crimean War the situation was beginning to change but it is far from clear that Russia's marginal inferiority in quality and quantity of equipment at that time was related to the backwardness of Russian industry, or was simply the result of poor planning by those in charge.

CHAPTER II

MOBILIZATION OF RESOURCES: THE BUDGET AND RECRUITMENT

That Russia did not apparently suffer from major shortages of military supplies does not mean that her military resources were without limit. It has already been noted that in terms of gross manpower Russia was comparable in size to Austria and France in the mid-18th century and substantially larger by the early 19th. Armies in Western Europe were relatively small prior to the revolutionary era because of the fiscal and socio-political restraints that were inherent in the old-regime monarchies. Did comparable limits operate in Russia despite the obvious differences in the social and political systems? In other words was the limiting factor institutional rather than physical?

First of all one must attempt to determine what were the major costs of maintaining an army for the Russian state and for Russian society. The two notions are not the same but they necessarily overlap and both present difficulties in any attempt to measure them. Both Soviet and pre-revolutionary students of the 18th century state budget throw up their hands in despair before plunging into the subject anyway. The basic problem is that there really was no state budget in any centralized sense of money coming in to

a central pot and then flowing out. Instead there were many little pots, each with its own income and outgo. S.M. Troitskii, the leading Soviet student of the subject, says of state expenditures:

> The insufficient centralization of financial administration, the lack of a central treasury, the secrecy of the budget, the unsatisfactory recording of business and lack of accountability in agencies, and the almost complete lack of state fiscal control of expenditures, all resulted in the inability of the state to make an overall account of income and expenditures during the period in question (1725-1763).

Troitskii's distinguished predecessor, N.D. Chechulin voiced similar complaints about the data for the reign of Catherine II: "The data on expenditures that comes down to us reflects the condition of this branch of finance: reports are usually incomplete, sometimes contain almost impenetrable confusions and contradictions, partly they are accounts of expenditures made, partly of expenditures proposed. . . ." and so forth. Only for the years after 1781 does Chechulin feel that he can offer any truly satisfactory accounting.[21]

With those grim warnings in mind we will proceed to see what can be made of the available data. A monetary budget is a way of summarizing the allocation of resources for one purpose or another. Russia's military expenditures could be expressed in chetverts of grain, arshins of woollen cloth, and poods of metal and powder. Those figures, plus the numbers of men involved over the years would not be entirely meaningless because there were not too many different things involved and the inputs remained stable for

150 years. But it is precisely this stability that makes the relative importance of the inputs important. Presumably the Napoleonic soldier ate about as much grain and needed about as much woollen cloth for his uniform as the Petrine soldier. Only if we can compare the relative importance of the sustenance component to the weapons component over time can we begin to say something interesting about the nature of Russia's military effort.

To aggregate the various components we depend on prices and frequently prices that are not those actually paid but simply those stated in budgets as to what ought to be paid. For example to estimate the annual cost of uniforms in 1803 we take the price of each item as stated in the Complete Code of Laws of the Russian Empire, divide the price by the expected years of useful life, also included in the laws, add up the various items to get an annual uniform cost and multiply by the number of soldiers to get a total, and we come out, perhaps surprisingly, with a plausible number.[22] The results of such arcane calculations undertaken by the author, and by a distinguished 19th century statistician, Dimitrii Zhuravskii, can be seen in Table II. The outcome leaves much to be desired. The categories constantly change, one is never totally sure what is included and what is not. For example, what does one make of: "weapons, equipment, transport, horses, and medical"?

Nevertheless the basic picture is clear. The primary cost of having an army was food, fodder, and clothing. Officers were

TABLE II

PERCENTAGE DISTRIBUITION OF MILITARY COSTS, VARIOUS YEARS

1712 Ammunition and Artillery (all costs thereof) as % of Total Army Costs . . . . . 13 %

(Zhuravskii #9, p. 11)

1731 Costs in Peacetime of:

	Infantry Regiment	Heavy Cavalry Regiment
Pay, Uniforms and Meat	71 %	49 %
Food and Salt	18 %	9 %
Officers' Rations	3 %	4 %
Horses (remounts)	0.3 %	17 %
Forage	1 %	12 %
Muskets and Ammunition	6 %	10 %

(Zhuravskii #9, p. 30)

1731 Artillery (all aspects) as % of Total Army Costs . . . . . 4 %

(Zhuravskii #9, p. 32)

1736 For Militia Regiments:

Muskets, Ammunition, and Regimental Office as % of Total Costs . . . . . 13 %

(Zhuravskii #9, p. 37)

1763 For an Artillery Regiment:

Pay	58 %
Food	21
Uniforms	17
Transport and Horses	3
Miscellaneous	1
Ammunition	3

(Zhuravskii #10, pp. 295-6)

TABLE II (continued)

1763 Junior Officer's Uniform and Equipment:

	Total Cost (rb)	Est. Life (yrs)	Annual Cost (rb)
Hat	6.5	1	6.5
Uniform	25.0	2	12.5
Tent (2-man)	12.0	5	3.0
Regimental Colors	12.0	20	0.6
Musket and Bayonet	4.5	20	0.225

(Zhuravskii #10, p. 322)

1796 Artillery Equals 3.5% of All Army Costs (Stein, p. 204)

1796 For an Artillery Regiment:

Pay and Provisions	62 %
All Other Expenses	38 %

(Zhuravskii #11, p. 8)

1798 Total Army Budget (not including artillery):

Pay	30 %
Food	24
Fodder	17
Ammunition and Weapons	28

(Zhuravskii #11, p. 6)

1803 Total Army Costs:

Food	38 %
Pay	31
Uniforms	11
Weapons, Equipment, Horses, Medical	15

(Stoletie, Vol. V, part 1, pp. 89-90)

expected to meet all their living expenses including uniforms and weapons from their pay (and their own private resources if they had any). The ranks received a tiny sum for personal expenses, plus a ration of flour, an allotment of cloth from which to make their uniforms, and money for "meat and salt." These items were usually given to groups of men, "artely," who cooperated in cooking, sewing and so forth. There was no provision in the budget for housing. Barracks were not built until well into the 19th century. Except on campaigns the troops were quartered in towns and villages in private homes, much to the distress of the occupants. Householders were paid an allowance to cover the cost of feeding their "guests" and towns without troops to quarter paid an additional tax for the privilege of not having them. In the field officers were expected to provide their own tents (at 15 rb., expected to last five years, i.e., 3 rb. a year). The men were expected to construct their own huts from local materials and at least one foreign observer remarked on how very good the Russian peasant soldiers were at this task.[23] Over the century the proportion of military costs devoted to subsistence and transport (horses) seems to range from 90 to 70 percent. Given the nature of the data, no significance whatever can be attached to small changes in the proportions; there does seem to be a tendency for the importance of weapons and ammunition expense to grow in the course of the century. This tendency might

be somewhat greater if figures on the cost of artillery pieces were available. The data on artillery seem to reflect only the ongoing cost of artillery units. However, cannon of the day were simple long lasting devices and the number that could be used was limited not by the cost of the weapon, but by the ability to feed the horses needed to move them. Each gun on the average required 14 horses to pull it, plus another eight in the regiment that serviced it. In 1807 the Russian army had about 1600 guns of all types and 34,858 horses were needed to move and supply them. The normal practice, at least until the almost continual war of the Napoleonic era, was to sell most of the horses after a campaign and get new ones when they were needed again because the annual maintenance cost of a horse was 1.6 times the statutory purchase price.[24]

The point of all this cascade of numbers is simply that warfare for Russia and all countries for that matter in the pre-industrial age was a matter not of equipment but of men (and horses) and the costs were largely the costs of subsistence. The basic problems of supporting an army had nothing to do with technology or industry, but simply the basic productivity of the agricultural economy. If commerce provided additional tax revenues these could be used to buy food for the army in addition to the taxes collected directly from the peasants. Subsistence, getting enough food and clothing to survive, was what life was all about in pre-industrial society and moving men from the villages to the army did not really change

things. The basic problems of warfare beyond mere subsistence were related to organizing, directing, and motivating masses of men, elements that, of course, remain central in military affairs. The comparison between Russia and Western Europe in this regard will comprise the third section of this paper.

A few words, however, must be said about the overall impact of the military burden on Russia, and burden it was, even though it was composed largely of the traditional elements of food and clothing. Even bearing in mind all the uncertainties inherent in Russian budgetary figures it seems clear from Tables III and IV that in the 18th century, although the army grew in size the overall budgetary burden declined because the size of the empire grew even more rapidly, and only with the great growth in military effort in the early 19th century did the proportion of the state's budget devoted to military expenses again increase, an increase dictated not by a change in the technology of warfare but in the sociology of war in Western Europe. The technological-economic challenge to Russia was still more than fifty years away.

In the eighteenth century the relative burden of the army on the state declined not only because the size of the empire increased but also, we must assume, because under Catherine II the administration of the provinces received much more attention, producing both an increase in revenue and a very large increase in the cost of

TABLE III

PERCENTAGE DISTRIBUTION OF STATE BUDGET EXPENDITURES

	Army	Navy	Court	Internal Administration and Tax Collection
1725[a]	50.4	14.1	4.4	31.1
1734[a]	58.1	13.3	6.8	21.8
1764[b]	40.4	5.7	11.2	42.6
1773[c]	34.5	4.0	9.5	52.0
1781[c]	26.3	8.0	11.5	54.2
1796[c]	28.4	9.0	11.8	50.8
1808[d]	39.7	12.3	7.4	NA
1820	39.6	5.1	3.4	NA
1830	38.9	8.2	4.2	NA
1840	36.2	7.2	4.0	NA
1850	30.7	6.2	3.4	NA

a) Troitskii (1966), p. 243.

b) Chechulin, p. 283.

c) Ibid., p. 313.

d) Figures for 1808 and later from Pecherin (1896).

TABLE IV

SIZE OF RUSSIAN ARMY

Year	Army Size	(Reference)
1700	56,000	(Kuropatkin)
1707	200,000	(Stein)
1720	178,049	(Stein)
1725	204,140	(Stein)
1731	205,549	(Beskrovnyi 1958)
1740	211,583	(Stein)
1756	344,000	(Stein)
1761	335,375	(Stein)
1765	303,529	(Beskrovnyi 1958)
1795	413,473	(Beskrovnyi 1958)
1798	380,178	(Stein)
1801	595,000	(Stein)
1801	446,059	(Stoletie)
1812	597,000	(Beskrovnyi 1973)

administration (Table III). In the nineteenth century the trend was reversed as the empire stopped growing and military expenses again amounted to slightly less than half of state expenditures (Table III).

If the military budget did not become the insatiable monster that is so familiar to us today, and to Russians in the second half of the 19th century, what can be said of the "real" burden of the military effort on the society in the pre-industrial era? There were two main components of this burden: 1) the diversion of peasant labor from the land and agricultural production and 2) the diversion of much of the upper class, at least in the 18th century, into military activity and their inculcation with military values and attitudes.

Table V gives us some idea of the burden of recruitment on the peasant population. The nobility, clergy, and merchants were exempt (the latter two groups were first awarded the right to purchase substitutes and later in the 18th century made exempt) so the burden fell on the peasantry and the tiny urban class subject to taxation (the meshchanstvo). In the 18th century recruitment was for life, and in the early 19th century for twenty-five years, which amounted to very nearly the same thing. Certainly for the individual selected to fill the village quota recruitment was an unmitigated catastrophe, destroying forever his ties to his home and family and

TABLE V

RECRUITS PER HUNDRED MALE SOULS DURING EACH 5-YEAR PERIOD

1726-1730	1.5	1776-1780	1.0
1731-1735	1.9	1781-1785	2.7
1736-1740	4.5	1786-1790	4.0
1741-1745	2.8	1791-1795	1.4
1746-1750	1.3	1796-1800	1.1
1751-1755	1.0	1801-1805	1.8
1756-1760	2.9	1806-1810	3.4
1761-1765	0	1811-1815	6.6
1766-1770	2.3	1816-1820	1.6
1771-1775	3.7	1821-1824	0.4

Average Per Year Over 99 Years: .46

Source: Stoletie, Vol. 4, Part 1, Book 1, section 1.

the only world he had ever known. Since virtually all peasants were illiterate the chances of maintaining contact were negligible. The recruit simply left the village and was never heard from again. If he came from a small family unit the loss of labor would be a severe one for those who stayed behind. However, if we look at the figures in Table V the picture changes somewhat. In a typical five year period a village with 100 male souls could expect to lose from one to three young men. Twice in the 18th century the drain reached four per hundred in five years, and only once, during the Napoleonic invasion did it ever significantly exceed four. The overall average for the first quarter of the 19th century is only very slightly higher than for the 18th century (.51 men per year per hundred compared to .49).

If we assume that in the 18th century the supply of peasant labor was usually the limiting factor in agricultural production but that this tended to be less frequently the case as the 19th century proceeded as population density particularly in the central black earth provinces grew, it seems likely that the impact of recruitment on agricultural production was constant or possibly declining. An average of about one man per hundred every two years does not seem to be a loss that would have a major economic impact on a village. Of course the losses came in spurts, corresponding to the army's need for manpower, but except for the 1812-1814 years the spurts were never long-lived.

Who went and who stayed home? The state did not really seem to care and simply set age and height requirements (17 to 35 years, and 5 feet 3 inches minimum in the late 18th century) and recquired recruits to be capable of service and not mutilated.[25] The landlord, and in turn, the village community could send whom it willed. Aside from peasants being punished for transgressions it seems that the villages tended to send men from large families whose loss would least disrupt the taxpaying capacity of the households. Bachelors were preferred but apparently there were not always enough so married men as well were often forced to go. A lessened chance of recruitment was presumably an incentive to early marriage.

Much more important than the loss in agricultural output, and in turn head taxes for the state and revenues for the landlord, was the fact that once the peasant left the village he immediately ceased to be productive, or at least self-sufficient, but had to be supported for the rest of his life. As we have already seen, the major cost of the army was food and clothing. The crude per soldier annual cost of the army was about 50 rubles in the late 18th century (total budget divided by number of forces). At that time a peasant paid 1 ruble head tax per year plus about another .6 rubles from the vodka tax, if he drank the average amount.[26] The state revenue from approximately 31 male peasants was required to support each one who was taken away to be a soldier. A similar calculation for

1763 yields a comparable 26 peasants per soldier. The landlord lost the dues paid to him by the recruited peasant which amounted to about 5 rubles per year at the end of the 18th century.[27] For a wealthy landlord with 1000 male souls the total revenue loss per year would amount to 25 rubles, a modest but not insignificant sum (assuming .5 recruits per 100 men per year).

Far more complex and difficult to assess than the diversion of peasant labor into the army is the diversion of much of the upper class males into a career as army officers. Service to the state was required by law until 1762 and was normal for reasons of prestige and frequently economic necessity for the rest of the 18th century. In the 19th century civilian service became more popular and gradually other career opportunities developed.

In 1720 there were about 4300 active commissioned officers, in 1731 a maximum of 5000, probably considerably fewer. By 1762 the total may have approached 10,000, in 1801 13,000, and by 1826 there were 26,425.[28] The striking thing about these figures is how small they are. The usual assumption among Russian historians has been that most of the gentry was in service most of the time prior to the abolition of compulsory service in 1762 even when allowance for exemptions and retirement is made. However if we accept the estimate of about 50,000 male nobles not in military service in 1762 and add a fairly accurate figure of 1200 nobles in civil

service in 1755 to the 10,000 military officers we get 11,200 or about 19 percent of the total male noble population in government service. Even if we assume that half of the group was over 50 or under 16 that would still leave 30 percent not in service. A comparable calculation for 1800 yields 27 percent of male nobles in state service, an increase almost entirely attributable to the large increase in the civil service.[29] It must be emphasized that these estimates are preliminary and need further study and elaboration. However, if they are even remotely near the truth some of the common assumptions about the extent and impact of the service obligation on the nobility in the 18th century may well need reexamination.[30]

The typical pattern of the military career, the social background of the officer corps, and the relationship of officers to landholding are all questions that remain largely unexplored, in sharp contrast to the extensive work done recently on the civil service by both Soviet and Western scholars.[31] We are very much in the same position as students of the civil service were fifteen years ago when they had little more to go on than the highly misleading but vivid impressions one got from reading Gogol's Inspector General or the Overcoat. The officers we think of tend to inhabit War and Peace or The Hero of Our Times. We do have one fine study by M.D. Rabinovich that provides a beginning for the discussion of the army officers as a social group.[32] Summarizing Rabinovich's

careful discussion very briefly, in the 1720s 62 percent of officers were of noble origin, 12 percent were foreigners (33 percent at the staff level), and some 35 percent had no land at all. Even among the noble officers there was a small group that had no land or relatives with land, and many had very small holdings. The Petrine era was clearly a time when access to the upper class via military service was a real possibility, the non-landed element, as in the civil service in later years, was substantial and the number of foreigners was lower than one is often led to expect. Comparable data for later periods has not been compiled. A reasonable assumption would be that as conditions stabilized in the 18th century fewer non-nobles managed to achieve commissioned officer status (and thereby membership in the hereditary nobility). Data on civil officials in the late 18th and mid-nineteenth century suggest that there was a substantial group of men who served at non-commissioned levels for many years and eventually achieved promotion to at least the lower rungs of the commissioned officer ladder, but frequently too late to enable all of their sons to claim hereditary nobility. About 30 percent of civil officials around 1800 and around 1850 were "sons of commissioned officers," i.e., men born before their fathers achieved noble status and therefore ineligible for it themselves.[33] Whether this was a self-perpetuating group that never quite made it to the status of hereditary nobility, or whether there was a steady

influx from other classes is impossible to say at present. Since the size of the army did not change greatly from the end of the Great Northern War to the late 18th century one is inclined to suspect that there was relatively little opportunity for men who were totally unconnected with military service to gain admission. In the early nineteenth century the size of the army grew rapidly and a new influx may have occurred then.

Nevertheless, whatever the percentages involved, a military career was the normal and the most prestigious for a young nobleman to follow in the 18th and well into the 19th century. To prepare for it the state gradually developed a limited number of educational institutions. In the hectic days of Peter I they were crash courses in the "three Rs" for men entering or already in service. For the more technically demanding branches, artillery and engineering, officer schools were opened, and finally in 1731 the famous Corps of Noble Cadets was established. Except for the basic efforts taken by Peter to get a reasonable supply of semi-literate officers these schools had really very little to do with the army. The Corps of Noble Cadets was established to enable young nobles to enter active military service as commissioned officers, instead of as enlisted men as had been required by Peter. It was an elite institution that, along with the guards regiments, enabled the most influential noblemen to help their sons on the way to a successful career. The

curriculum covered "geometry, fortification, artillery, drawing, fencing, riding, 'other military subjects,' history, geography, jurisprudence, dancing, music, and 'other useful subjects according to talent.'"

The truth of the matter was that 18th century warfare did not need very much special theoretical training. The patterns of drill were complex but they were best learned "on the job" from experienced practitioners. The technology of weapons, even the artillery, was simple. The most complex aspect of 18th century warfare, fortification and siegecraft, was less important for Russia than for other European powers for geographical reasons, and it was always possible to hire a few foreign specialists to provide needed expertise in that complex art. In France there was no formal training for officers until 1751 and the great debate over the curriculum in the military schools during the last years of the old regime was whether mathematics or the classics was the best route to instilling qualities of leadership. It was recognized that the proposed mathematics curriculum far exceeded any possible practical need for mathematics that could arise.[34]

In a quantitative sense the special military schools in Russia had relatively little impact. Between 1762 and 1800 the Corps of Noble Cadets accepted 2186 students, graduated 985, of whom 820 became officers. The vast majority of officers were young nobles who were promoted through the ranks to commissioned officer

rank.[35] It was therefore actual military service, rather than formal military education that had the greatest impact on the upper class in Russia. The possible effects of military life on the personality and social values of the Russian nobility has been discussed at some length by Marc Raeff, and pending further research I am in no position to carry the matter any further.[36]

CHAPTER III

MILITARY TACTICS AND RUSSIAN SOCIETY

In sections I and II we have discussed the overall quantity of resources available for Russia's military effort and its ability to mobilize them for military purposes. We have seen that Russia was comparable in population to the major Western powers (Austria and France) and that it had no particular difficulty in meeting the army's needs for weapons because they were simple to make and comprised only a small part of the total budget. The limiting factor was the ability of a poor agricultural economy to feed and clothe men who were making no productive contribution to the society. Difficulties in transporting supplies and the tactics of 18th century warfare did not encourage large armies, so Russia was not faced with the need to find out how many troops it could put into the field until the Napoleonic period. Then it proved possible to double the regular army and maintain even larger forces in subsequent years. For the peasant, service was an obligation that he tried to avoid but accepted when compelled. The nobility provided the bulk of the officer corps with apparent willingness even after they were free not to serve,because for many it was an economic necessity, and for the ambitious it was virtually the only route to high social status, prestige, and power.

In many obvious ways Russia's situation differed from that of the old regime monarchies to the West. There was no need to hire mercenary soldiers (except a relatively few foreign officers). The core of the army was a homogeneous national unit, culturally distinct from any possible foe. Some national minority groups served in special auxiliary units. Although the 18th century sovereigns in St. Petersburg were far from secure from the threat of a coup by the guards regiments, the exactions they levied on the population as a whole, and even on the bulk of the nobility, were not limited by the entrenched rights of various estates. If, as is usually said, the "classic" armies of the 18th century West were the product of the social, political, and economic systems of those countries then one might expect that Russian armies would be quite different since they were produced by a very different society.

The size of Western armies was restricted by the limited ability of the Western monarch to tax the population. He had to compete with the established position of noble and merchant in the fiscal order and even the rights of peasants. Furthermore Western armies were costly because many of the soldiers were mercenaries and even domestic troops were paid. Expensive depots and supply trains were needed so the soldiers would not desert or ravage the countryside. The men were expensive to train and therefore it is alleged that generals were loath to risk a battle and the danger

losing them. This assertion is challenged by Colin who maintains that it was not a matter of choice, but simply that as long as armies fought as single units one could always retire before the other without danger of being cut off by another force.[36a]

More important, the Western model required the use of linear tactics, not only because they were the most appropriate way to bring maximum firepower to bear on the enemy, but also because they were the best way to utilize unwilling and unmotivated soldiers effectively. The Frederician ideal was allegedly a totally unthinking mechanical performance of duties as ordered. The soldier was never supposed to be out of sight of an officer and was to be subject to fierce punishment for any infraction of duty. The nature of the 18th century battle would seem to require unthinking obedience because the conduct expected of the troops is contrary to all normal instincts of self-preservation. The musket could only be loaded standing up. Therefore two lines of men stood quite close and methodically shot at one another until one line began to break. Then there might be a bayonet charge, or rather an advance at a modest pace keeping in line, or that might be left to the calvary. Infantry rarely pursued the enemy very far because of the danger that troops would desert in an unorganized march without a calvary escort.

This kind of fighting was possible both because of discipline and because of the inaccuracy of the musket. Frederick's troops, noted for their speed, supposedly could manage three shots per minute, but only ten to thirteen percent hit their target in practice and probably far fewer in battle. The Welsh General, Henry Lloyd, who served with several continental armies and who wrote a history of the Seven Years War, claimed that only one shot in 400 hit anything and that the musket was so ineffective that it could not prevent the advance of troops over open ground.[37] Nevertheless battles could be bloody and casualties high. At Zorndorf, admittedly the most savage battle of the Seven Years War, Prussian casualties were nearly 13,000 and Russian over 21,600, killed and wounded, amounting to a third of the Prussian army and a half of the Russian.[38] Musket fire was not the only cause of casualties; the lines of infantry were exposed to canister fire by the artillery, but there could not be enough pieces to cover a long thin line advancing on a wide front.

The ubiquitous fear of desertion also prevented night marches, camps in forested areas, the use of small detachments of infantry for scouting and harrassing the enemy, or for foraging. All of these latter functions were performed, if performed at all, by the cavalry which was normally drawn from the upper levels of society and was more trustworthy.

The more one reads about 18th century warfare the more exceptions and qualifications turn up, as with any model abstracted from reality. However, on the whole, there seems to be an unusual degree of consensus among military writers that the model is essentially correct at least through the time of Frederick the Great, the outstanding practitioner of "pure" 18th century warfare. In the decades just prior to the French revolution there were important tactical developments that only bore their full fruit after the revolution had changed the social base of Western European armies. The two of greatest interest here are the use of light infantry to harrass the enemy with aimed fire, and the attack column, actually a thick line perhaps 12 men deep and 40 long.[39] Other developments, the use of larger amounts and lighter, more maneuverable artillery, and the division of armies into flexible "divisions" are probably equally important but are less relevant to our concerns. In simplest terms the new tactics called for the enemy force to be disorganized as much as possible by individually aimed fire from the light infantry who took advantage of whatever cover was available, supported by volley fire from the front lines of the column. The new tactics obviously required men who could be trusted to act on their own and who were sufficiently motivated so as not to desert at the first opportunity. Every army always had a certain number of such

men, even excluding the predominantly noble cavalry. The most famous and important in the middle of the century were the Austrian Grenzers, often called Croats, although the ethnic background was quite mixed. These were men drawn from free peasant settlers on the Turkish border who held their land in exchange for military service. Proud and fierce, often regarded by their mid-eighteenth century opponents as barbaric, and savage, they played an important role in Austria's wars with Prussia. Prussia had a similar force called Jaegers composed of gamekeepers and foresters but it was never large for lack of suitable recruits.[40] One also suspects that their unorthodox manner of fighting was not considered really proper for the Prussian army which was regarded, and regarded itself, as the model for all others.

Russia with its different social and political system had no need to hire mercenary troops, and the rights of estates did not limit the sums that could be spent on the military or on anything else. One might expect that the Russian army would reflect at least some of these important differences. On the other hand Western armies, particularly the Swedish and the Prussian, were the models that had been used in transforming Russia's out-moded and undisciplined gentry cavalry into an effective infantry force that could cope with the best that came against it. To state the question in a somewhat oversimplified form: which was more important,

the potential inherent in the Russian social reality, or the model of the ideal army as represented by Prussia? By "potential inherent in Russian social reality" I mean simply that it seems reasonable to suppose that Russian soldiers were far less likely to desert than Western mercenaries. They were culturally isolated from their opponents, they were accustomed to coercion whether they were serfs or soldiers. If they could be trusted not to desert they could presumably be used in ways that mid-eighteenth century Western generals did not dare to try, except with special forces like the Grenzers. In short it would not be unreasonable to expect that Russia could have anticipated the tactical innovations of the late 18th century and the Napoleonic era.

It is important to separate the question into two parts: 1) did Russia anticipate developments in Western Europe, or 2) did the tactical evolution of the Russian army simply parallel or even lag behind that in the West? The answer provided in Soviet military histories is emphatically that Russia anticipated the "progressive" developments of the West. The standard history of the Russian army in the 18th century says the following about the Russian army in the Seven Years War:

> In the area of tactics the Russian army achieved great successes. The army, trained according to the statutes of Peter I, had a higher fighting quality than did the army of Frederick II. Russian linear tactics were free from stereotyped forms.
>
> Russian infantrymen could carry on a fire fight, and also could attack with the bayonet. It was particularly important

> that the Russian army was formed on a national basis, and had a higher quality of morale than a mercenary army. The stoicism, courage and bravery of the Russian infantrymen were evident in many battles. The Prussian army could not win a single battle.[41]

Similar statements emphasizing the superiority of the Russian "national" army over contemporary Western armies can be found in all Soviet discussions of 18th century warfare. The emphasis is on the era of Peter the Great, the national hero, but Russia's success in the Seven Years War is attributed to her hewing to the Petrine national tradition despite the temporary diversion into a Western direction during the reign of Anne Ivanovna (1730-1740).[42] It is difficult to ascertain what specific qualities allegedly differentiated the Russian army of the period except a propensity to use the bayonet more readily, and as one writer puts it, "The linear tactics used by the Russian army had only an external similarity with the linear order of Western European armies; it was not dogmatic, but flexible and fast."[43]

Most of these sources are either from the Stalin era or shortly thereafter and it would be easy to dismiss them merely as examples of the excessive nationalism that characterized those tragic years. Few historians would agree with Beskrovnyi's assertion that Russia defeated Prussia on all occasions. Of the three major Russo-Prussian encounters, Gross-Jagendorf, Zorndorf, and Kunersdorf, Zorndorf is usually counted as either a stand-off or, more commonly,

a costly Prussian victory. However we have already suggested that there seems to be good reason to expect precisely the kind of difference in behavior on the part of the Russian troops that the Soviet historians suggest.

However, it is desperately difficult to find any hard evidence that supports either the a priori expectation or the claim. The Soviet authors provide no evidence whatever. They simply say it was so. An exhaustive search of contemporary Russian and Western accounts provides ample evidence that the Russians fought well, but virtually none that they fought differently from the Prussians. General Lloyd wrote that the Russian infantry are "obedient, patient, bear hardship well, are sober, and free from vice, have great religious enthusiasm and respect for princes, and are equal or superior to every other army not animated by similar principles" and later in the same volume, "The Russian infantry is far superior to any in Europe insomuch that I question whether it can be defeated by any other infantry whatever. They cannot be defeated they must be killed."[44] After the battle of Zorndorf Frederick himself is quoted as saying "It is easier to kill these Russians to the last man than to defeat them."[45] Frederick's own Fieldmarshall James Keith, a Scot who served in Russia before entering Prussian service, said "The Russians are very good infantry for holding firm, but still novices maneuvering; they do not know how to move but they

hold firm."[46] Finally, the British ambassador to Prussia commenting on the aftermath of Zorndorf said, "All our officers agree that the Russians uniformly behaved well, as a view of the field of battle is a full proof of it, for they fell in their ranks."[47] The detailed accounts compiled in the 19th century by the Prussian General Staff give exactly the same picture, that is a determined, but conventional enemy.[48] Comments on the other branches of service give high marks to the Russian artillery, the most "technical" aspect of warfare except perhaps for siegecraft. The cavalry was regarded as poor, at least in comparison to the Prussian, generally admitted to be the best in Europe. The least successful branch of service was apparently the Russian supply system. Even by 18th century standards the slowness of the Russian army provoked comment by contemporaries.[49] The slowness was blamed largely on excessive baggage trains, although the poor quality roads and the long distances that the Russians had to cover must also have played a part.

Thus contemporary testimony and the conclusions of modern military specialists agree that the Russian soldier was animated for whatever reasons by a spirit, or at least a willingness to be killed, that exceeded that of his contemporaries in the armies of Western Europe. What is lacking is any significant indication that Russian leadership took advantage of this spirit to innovate in the use of men on the battlefield. Although one can find an occasional

reference to the use of the bayonet or a march through a wood or swamp, there is nothing to suggest that these practices were significantly more characteristic of Russian forces than of their opponents.[50] Because of the need to keep the common soldier under close observation the ratio of officers to men in 18th century armies was high, but it seems to have been as high in Russia as in Prussia.[51]

The view that Russian officers failed to take advantage of the human material at their disposal tends to be confirmed by the limited material available on desertion, the problem that shaped so many of the practices of the Western armies. The leading pre-revolutionary student of the Seven Years War claims the desertion rate was one percent, a negligible figure. Soviet historians are torn on the issue because, on the one hand, they are committed to the idea of a "patriotic" or "advanced" Russian national army as we noted above, while on the other hand desertion was one way of carrying on the "class struggle" against the "ruling classes". Beskrovnyi states that there were "several thousand deserters" during the Seven Years War.[52] Even if we assume that "several thousand" means five or six thousand the figure is low compared to armies of over 100,000 that entered the field for at least four years. In no contemporary Western source is there mention of Russian desertion. Desertion of newly recruited Russian peasants en route to military

camps was high, and allowance for it was made in recruit quotas. On the other hand, there is ample evidence on the scale of desertion from the Prussian forces. General Saltykov in his report to Elizabeth on the relatively minor battle of Palzing (1759) reports that 1406 deserters were received and a large number "went to Poland."[53]

The second half of our question about how the Russian army fought relates to the period after the Seven Years War when, as noted above, the nature of warfare and the accepted notions about tactics began to change in Western Europe well before the French Revolution. Soviet military historians emphasize the importance of the introduction of light infantry (Jaeger) battalions at the very end of the Seven Years War, in 1761, when they allegedly employed dispersed formations, and harrassing fire, to prepare the way for a column attack.[54]

A major problem in assessing tactical developments after the end of the Seven Years War for Russia (1762) was that it was not until the war of the second coalition (1799) that Russia engaged in a major conflict with an important Western military power. Conditions in the Polish and particularly in the Turkish wars were so different, and required such different techniques, that they are largely irrelevant when comparing Russian and Western armies. Russia's most famous commander of all time, A.V. Suvorov, was a junior officer in the conflict with Prussia and spent most of his career

in Poland and on the Turkish frontier. Only in his very last years did he appear on the battlefields of Western Europe, in 1799, and achieved a series of dramatic victories over the French in Northern Italy. The crossing of the Alps that followed and the Swiss campaign became one of those heroic defeats that have been transformed into moral victories and are celebrated by the losing side. The literature on Suvorov in Russian is enormous and I have hardly scratched the surface. In Western languages there is relatively little.[55] Suvorov clearly realized much of the potential of the Russian soldier that other commanders had not. He emphasized speed of movement, vigor of attack, the importance of encouraging his men by example and rigorous training rather than fear of harsh punishment. It is difficult to show however that Suvorov introduced any tactical innovations to the Russian army that were unknown in the West. Whether he literally borrowed from his reading or conversations with foreign officers, or sensed what would work is immaterial.

Little more than a decade after Suvorov's death in 1800, Russia faced her greatest military test since the Great Northern War and emerged triumphant. However, the army that defeated Napoleon and helped to reconquer Europe was viewed by contemporary Western observers as a tactically conservative force that did not make maximum use of the more flexible, dispersed formation infantry

tactics that had come to dominate warfare in Napoleonic Europe.[56] It is noteworthy that the military regulations (ustavy) issued between 1789 and 1818 made no special point of the training of Jaeger troops or the use of dispersed formations. The Soviet writer, Kochetkov, suggests that aimed fire, dispersed order, and attack columns were used extensively in practice even though they were not described in the drill regulations. It could hardly have been otherwise under the conditions of Napoleonic warfare, but by then the time for Russian tactical innovation had passed.[57]

In the pre-industrial age the backwardness attributed to Russia by contemporary commentators does not seem to have hindered her in playing the role of a great power once the efforts of Peter the Great had created the minimum level of military organization and technology. There is no evidence that Russia capitalized on the possible advantages her "backward" social system might have bestowed on her in the utilization of forces in the field. Russia's successes on the battlefield did not depend on the success of industrial development or the development of a highly educated officer corps. It was merely a matter of conscripting peasants, feeding them, drilling them in the simple techniques of 18th century warfare, and providing them with equipment supplied by a miniscule domestic industry. The crucial element in this effort was not knowledge, or even wealth, but just political power. When the call

went out for recruits, they were supplied and did what they were told to do. Enough taxes were collected from their brethren back in the village to feed them and the landlord's son gave them orders, or more likely he left that to a sergeant who had risen through the ranks. This system did not change significantly until after the Crimean war. It would be hard to prove that even that defeat was due to either the technological or moral inferiority of the Russian forces. In other words, the crucial element in the great power status of the Russian empire for 150 years was the pre-Petrine political and social system that permitted the effective mobilization of human and material resources from a large poor country in a manner that no other European power could equal, at least until the French Revolution.

In the post-Crimean era Russia faced two crises in close succession that threatened the basis of her military power. The first, the need to cope with the system of universal conscription and a large reserve force that had been introduced on the continent, was dealt with by adopting the same system in 1874--a decision that had major, but as yet unexamined consequences, for Russia's internal social development. The second and far more difficult crisis for Russia was the industrialization of warfare that got underway seriously in the 1870s and has accelerated rapidly ever since. Only then did clothing and food cease to be the major cost of war. The

major effort made by the Russian empire to industrialize in the 1890s and the continuing struggle with the same problem that has faced the Soviets at least until well after World War II was the response to this second crisis. Russia became a great power after Poltava (1709) on the basis of her pre-Petrine political system, and became accustomed to playing that role in the ensuing 150 years. For the century since the Crimean War the nation has been struggling to maintain or regain what had become its accustomed place in the international arena.

NOTES

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7. Maslovskii, II, p. 67, supplement p. 122; Sukhotin, p. 225.
8. Clausewitz, p. 323.

9. Henry Lloyd, The History of the Late War in Germany between the King of Prussia and the Empress of Germany and Her Allies 2 vols. (London, 1776, 1781), Vol. I, p. 33.

10. One of the best summaries of mid-eighteenth century warfare is in Peter Paret, Yorck and the Era of Prussian Reform 1807-1815 (Princeton, 1966), pp. 12-21. There are many others.

11. Paret, Chapter III.

12. L.G. Beskrovnyi, Russkaia armiia i flot v XVIII veke (ocherki) (Moscow, 1958), p. 18.

13. Beskrovnyi (1958), p. 93. Thomas Esper in a most valuable article suggests that it was probably not until 1716 that enough domestically produced muskets became available. However, Russia was certainly self-sufficient well before the end of Peter I's reign. Thomas Esper, "Military Self-Sufficiency and Weapons Technology in Muscovite Russia," Slavic Review, XXVIII, No. 2 (June 1969), p. 207.

14. Beskrovnyi (1958), p. 346.

15. Mitchell, Memoirs and Papers, dispatch of Whitworth, 25 March 1705; Grosser Generalshtab, Die Kriege Friedrichs des Grossen, Part 3, Vol. 4, pp. 4, 113, 119, Vol. 10, p. 17. Gen. Robert Wilson, Brief Remarks on the Character and Composition of the Russian Army (London, 1810), p. 20, cited in Christopher Duffey, Borodino (New York, 1973), pp. 45-7; John Shelton Curtiss, The

Russian Army under Nicholas I (Durham, 1965), pp. 148-51, citing a number of foreign observers.

16. Esper, "Military Self-Sufficiency," pp. 185-202.

17. R.P. Bartlett, "Scottish Cannon-founders and the Royal Navy, 1768-85," Oxford Slavonic Papers, New Series, Vol. X (1977), p. 52.

18. Beskrovnyi (1958), p. 98.

19. Konstantin A. Pazhitnov, Ocherki istorii tekstil'noi promyshlennosti dorevoiiutsionoi rossii: sherstianaia promyshlennost (Moscow, 1955), pp. 19, 27, 34.

20. Walter Pintner, Russian Economic Policy under Nicholas I (Ithaca, 1967).

21. S.M. Troitskii, Finasovaiia politika russkogo absoliutizma v XVIII veke (Moscow, 1966), p. 221; N.D. Chechulin, Ocherki po istorii russkikh finansov v tsarstvovanie Ekateriny II (St. Petersburg, 1906), p. 266.

22. The expected life of most items is a reasonable 1 to 4 years, except for grenadiers' hats which were supposed to last 20, making them, at .93 rubles or .05 rubles a year, the most economical of all the items. Musketeers' hats on the other hand had only to last 2 years or .20 rb a year. Stoletie voennago ministerstva: 1802-1902, Vol. V, part 1, Glavnoe intendantskoe upravlenie (St. Petersburg, 1903), pp. 90-1.

23. Stoletie, Vol. V., part 1, pp. 120-3; Messeliere, Zapiski Messil'era, Russkii arkhiv, book 1 (1874), pp. 965-6.

24. D.I. Zhuravskii, "Statisticheskoe obozrenie raskhodov na voennyia potrebnosti. (c 1711 po 1825 god)," Voennyi sbornik (1859), nos. 9-12, no. 12, p. 296; L.G. Beskrovnyi, Russkaia armiia i flot v XIX veke (Moscow, 1973), p. 25. The Zhuravskii work was also published as a separate book with the same title in St. Petersburg in 1859. It is probably the single most useful source I have used in this study.

25. V.A. Aleksandrov, Sel'skaia obshchina v Rossii (xvii-nachalo xix v.) (Moscow, 1976), p. 243.

26. Chechulin, pp. 262, 316, budget data; Arcadius Kahan, "The Costs of Westernization in Russia," Slavonic Review, Vol. XXV, no. 1 (March 1966), p. 51, head tax.

27. Kahan, p. 51.

28. The figure for 1720 is a reliable estimate of those actually in service by M. D. Rabinovich, "Sotsial'noe proiskhozhdenie i imushchestvennoe polozhenie ofitserov reguliarnoi russkoi armii v kontse Severnoi voiny," Rossiia v period reform Petra I (Moscow, 1973); those for 1731, 1762, and 1801 are estimates based on data in Beskrovnyi (1958), and Beskrovnyi (1973); that for 1826 is in Beskrovnyi (1973), p. 15. The estimates are probably high and need further refinement.

29. Data on total number of nobles from Kahan, p. 42, citing V.M. Kabuzan, Narodonaselenie Rossii v XVIII-pervoi polovine XIXv., pp. 154, 161; data on civil service from Walter M. Pintner and Don K. Rowney, Russian Officialdom from the 17th to the 20th Century (forthcoming, Chapel Hill, 1979) and H.J. Torke, Das Russische Beamtentum (Berlin, 1967), p. 136.

30. See for example the statements on the extent and burden of service on noblemen in Marc Raeff, Origins of the Russian Intelligentsia: The Eighteenth Century Nobility (New York, 1966), pp. 43, 69.

31. S.M. Troitskii, Russkii absoliutizm (Moscow, 1974); P.A. Zaionchkovskii, "Vyshaia biurokratiia nakanune krymskoi voiny," Istorii SSSR, no. 4 (1974); Pintner and Rowney, Russian Officialdom; and Torke, Russische Beamtentum, among others.

32. "Sotsial'noe proiskhozhdenie."

33. Pintner, "The Social Characteristics of the Early 19th Century Russian Bureaucracy," Slavic Review, XXIX, no. 3 (1970).

34. Lee Kennett, The French Armies in the Seven Years War (Durham, 1967); David O. Bien, "Military Education in 18th Century France: Technical and Non-Technical Determinants" in Science, Technology and Warfare, Proceedings of the 3rd Military History Symposium, U.S. Air Force Academy, ed. by Monte D. Wright and Lawrence J. Paszek (1969), p. 59.

35. Besrovnyi (1958), pp. 449, 452; Maslovskii, Russkaia armiia, I, p. 12.

36. Raeff, Origins of the Russian Intelligentsia, chapters 3 and 4.

36a. Jean L.A. Colin, The Transformations of War (London, 1913), pp. 196-8; also B. Liddle Hart, The Ghost of Napoleon (New Haven, 1934), pp. 23-5.

37. Christopher Duffy, The Army of Frederick the Great (London, 1974), pp. 89-90; Henry Lloyd, History of the Late War in Germany (London, 1776, 1781), Vol. II, pp. 14-6.

38. Prussia, Grosser Generalstab, Die Kriege Friedrichs des Grossen, Part 3, vol. 8 (Berlin, 1910), p. 161.

39. The changes in military theory and practice in the late 18th century in Western Europe are brilliantly described in Peter Paret, Yorck and the Era of Prussian Reform (Princeton, 1966), chapters II and III.

40. Duffey, The Army of Frederick the Great, pp. 74-6; The Army of Maria Theresa, chapter 6.

41. Beskrovnyi (1958), p. 288.

42. N. Berezniakov, "Borba Rossii s Fridrikham II," Ucheniye zapiski LGU, no. 36 (1936), p. 140; A. Kochetkov, "Taktika Russkoi armii v seredine XVIII veka," Voennyi vestnik, no. 21 (1948), p. 14v; P.A. Rotmistrov, Istoriia voennogo iskusstva, I (Moscow, 1963), p. 132.

43. E.I. Porfir'ev, "Taktika Russkoi reguliarnoi armii v pervoi chetverti XVIII v.," in V.D. Pankov, ed., Razvitie taktiki Russkoi armii (Moscow, 1957), p. 44; on bayonet attacks: Aleksandr Strokov, Istoriia voenogo iskusstva, Vol. I (Moscow, 1955), pp. 486, 519, 522.

44. Lloyd, I, pp. 34, 145.

45. F. von Stein, Geschichte des Russischen Heeres (Hannover, 1885), p. 131.

46. Henri DeCatt, Frederick the Great: The War Memories of his Reader, Henri De Catt (1756-1760), Vol. I (London, 1916), p. 308.

47. Sir Andrew Mitchell, Memoirs and Papers of Sir Andrew Mitchell, ed. by Andrew Bisset, Vol. I (London, 1850), p. 431; see also similar statements of a Prussian officer quoted by Maslovskii, II, p. 253.

48. Die Kriege Friedrichs des Grossen, Part 3, Vol. 4, pp. 37, 113; and an earlier General Staff study, Die Schalcht bei Kunersdorf am 12 August 1759 (Berlin, 1859), pp. 15-7.

49. Lloyd, p. 145; Maslovskii, I, p. 225, II, p. 167; Sukhotin, Fridrikh velikii, p. 225.

50. See for example Maslovskii, I, p. 300 on the passage of Russian troops through a swampy area at Gross Jagendorf.

51. For Prussia, see Hans Delbrück, Geschichte der Kriegskunst im

Rahmen der politischen Geschichte, Vol. 4 (Berlin, 1920), p. 268; for Russia, Polnoe sobranie zakonov, I (1762), statute #11, 474.

52. Maslovskii, I, p. 16; Beskrovnyi (1958), pp. 434-5.

53. "Iz reliatsii P.S. Saltykov imperatritse Elizabete or pobede russkoi armii pod Pal'tsingom," XVIII (July 1759), N.M. Korobkov, ed., Semiletniaia voina (Moscow, 1948), p. 470; virtually every account of Western armies in the 18th century refers to the problem of massive desertion, for example Eric Robson, "The Armed Forces and the Art of War," New Cambridge Modern History, ed. by J.O. Lindsay, Vol. VII (Cambridge, England, 1970), p. 181.

54. A.N. Kochetkov, "Taktika russkoi armii v seredine XVIII veka," Voennyi vestnik, no. 21 (1948), p. 18; D.V. Pankov, "Russkaia reguliarnaia armiia," p. 9; and A.N. Kochetkov, "Taktika russkoi armii v period otechesvennoi voiny 1812g.," pp. 113, 120-4, all in Pankov, Razvitie taktki; Beskrovnyi (1958), p. 508.

55. The recent biography by Philip Longworth, The Art of Victory; The Life and Achievement of Field Marshall Suvorov (1729-1800) (New York, 1966), is reliable and has a good selective bibliography.

56. I rely on the summary of this literature in Paret, Yorck and the Era of Prussian Reform, pp. 202-4. Paret may overstate the case but Russia was certainly not an innovator.

57. Kochetkov, "Taktika . . . period otechestvennoi Voiny," pp. 120-4.