



Volume 3. From Vormärz to Prussian Dominance, 1815-1866
Carl von Clausewitz: Excerpts from *On War* (1832)

The Prussian Major General Carl von Clausewitz (1780-1831), one of the leading military thinkers of the nineteenth century, drew substantially on his experience in the campaigns against Napoleon in 1806-1807 and 1812-1815. In many respects, Clausewitz's theory of war, put forth in his major work *On War* (1832), represented a paradigmatic shift in military thinking, because it also considered the fundamental relationship between war and politics. The following passages focus on the mounting importance of infantry, the improved chances for success of the defensive as opposed to the offensive, and the desired but increasingly difficult objective of total victory through offensive operations.

(Book Five) Chapter Four: Relationship between the Branches of the Service

Here we shall only discuss the three main branches: infantry, cavalry, and artillery.

We trust we may be forgiven the following analysis, which really belongs more under the heading of tactics. It is needed here in the interest of clarity.

An engagement consists of two essentially different components: the destructive power of firearms, and hand-to-hand, or individual, combat. The latter in turn can be used for either attack or defense (words employed here in an absolute sense, for we are speaking in the broadest terms). Artillery is effective only through the destructive power of fire; cavalry only by way of individual combat; infantry by both these means.

In hand-to-hand fighting, the essence of defense is to stand fast, as it were, rooted to the ground; whereas movement is the essence of attack. Cavalry is totally incapable of the former, but preeminent in the latter, so it is suited only to attack. Infantry is best at standing fast, but does not lack some capacity to move.

This distribution of elementary military strengths among the three main arms demonstrates the superiority and versatility of infantry in comparison with the other two: it alone combines all three qualities. This also explains how in war a combination of the three arms leads to a more complete use of all of them. It enables the combatant to reinforce at will any one of the functions which, in the infantry, are inseparably united.

In recent wars the major role has undoubtedly been played by the destructive power of firearms: but it is no less clear that the true, the actual core of an engagement lies in the personal combat of man against man. An army composed simply of artillery, therefore, would be absurd in war. An army consisting simply of cavalry is conceivable, but would have little strength in depth. An army consisting simply of infantry is not only conceivable, but would be a great deal stronger. The degree of independence of the three branches, then, is infantry, cavalry, artillery.

But their order of importance is quite different when each is cooperating with the other two. Destruction being a more effective factor than mobility, the complete absence of cavalry would prove to be less debilitating to an army than the complete absence of artillery.

An army consisting only of infantry and artillery would, to be sure, find itself at a disadvantage when faced with one composed of all three arms. But if it were to make up for the missing cavalry by a *proportionately* stronger infantry force, a change in its tactical dispositions would enable it to manage fairly well. Outposts would pose some difficulties: there could be no brisk pursuit of a defeated enemy; and its own retreat would cause greater hardships and exertions. But such difficulties alone would hardly be sufficient to drive it off the field. If, on the other hand, such an army were faced with one composed only of infantry and cavalry it would stand up very well indeed. It is, in turn, almost inconceivable that the latter type could hold out at all against an army composed of all three arms.

It is understood that these reflections on the importance of each arm of the services are derived from the whole mass of military data, where one instance is analogous to another. It cannot be our intention to apply the facts we have discovered to every single phase of any given engagement. A battalion retreating or doing outpost duty would probably prefer some cavalry to a few guns. A body of cavalry and horse artillery with the task of pursuing a retreating enemy or cutting off his escape will find infantry completely useless, and so forth.

Let us recapitulate the results of these reflections:

1. Infantry is the most independent of the arms.
2. Artillery has no independence.
3. When one or more arms are combined, infantry is the most important of them.
4. Cavalry is the most easily dispensable arm.
5. A combination of all three confers the greatest strength.

Since maximum strength derives from a combination of all three arms, the question naturally arises what the optimum proportions would be. An answer is almost impossible.

If one could compare the cost of raising and maintaining the various arms with the service each performs in time of war, one would end up with a definite figure that would express the optimum equation in abstract terms. But this is hardly more than a guessing game. The first part of the equation alone is hard enough to estimate, except for the purely monetary factor; but the value

of human life is another matter—one on which no one would be willing to set a price in cold figures.

There is also the fact that each arm really depends on a different sector of the national economy: infantry on the human population, cavalry on the equine, and artillery on finance. That fact introduces an outside determinant, which we clearly see to be dominant in the general historical phases of different peoples at different times.

But since for other reasons we cannot quite dispense with all standards of comparison, instead of taking the first part of the equation as a whole, we shall simply make use of the only ascertainable factor: the monetary cost. For our purposes it will suffice to state that, according to common experience, a squadron of 150 horses, a battalion of 800 men, and a battery of eight six-pounders cost approximately the same both for equipment and maintenance.

So far as the second part of the equation is concerned, it is even more difficult to work out definite figures. It might conceivably be possible if destructiveness were all that had to be measured; but each branch has its own particular use and thus a different sphere of effective action. But the spheres are by no means fixed; they could be expanded or contracted, and the consequence would merely be to modify the conduct of the war without incurring any special disadvantage.

People often talk of the lessons of experience in this context, in the belief that the history of war provides sufficient grounds for a definite answer. But those are obviously empty phrases, which, since they cannot be traced back to any fundamental and compelling basis, are not worth considering in a critical investigation.

In theory, then, there is an optimum proportion between the arms, which in practice remains the unknown X, a mere figment of the imagination. But it is possible to calculate what would happen if one arm were greatly superior or inferior to the same arm on the other side.

Artillery intensifies firepower; it is the most destructive of the arms. Where it is absent, the total power of the army is significantly weakened. On the other hand, it is the least mobile and so makes an army less flexible. What is more, it must always be covered by infantry, since in itself it is unable to engage in hand-to-hand combat. If there is too much artillery, and the troops detailed to cover it are in consequence not strong enough at every point to beat off the enemy, guns are easily lost. This points up an additional disadvantage: artillery is the only one of the three arms whose main equipment—guns and carriages—can be promptly used by the enemy *against* its original owner.

Cavalry increases the mobility of an army. Where there is not enough of it the rapid course of war is weakened, since everything proceeds more slowly (on foot) and has to be organized more carefully. The rich harvest of victory has to be reaped not with a scythe but with a sickle.

An excess of cavalry should never be considered a direct impediment to an army, an organic disproportion. But it does weaken the army indirectly, because of the problems of maintenance and because we must recognize that at the cost of an extra cavalry force of 10,000 men we could maintain an additional 50,000 foot soldiers.

The peculiarities that arise from the predominance of one particular arm are the more relevant to the art of war in the narrower sense, since it is concerned with the use of available forces. These are usually assigned to the commander in proportion to their availability without his having much say in the matter.

Assuming therefore that the character of war is modified by the predominance of one of the arms, it will be in the following manner.

An excess of guns will impose a more passive and defensive character on operations. Greater reliance will be placed on strong positions, major natural obstacles, and even on positions in mountainous areas. The idea will be to let terrain difficulties take care of the defense and protection of the guns and to let the enemy court his own destruction. The whole war will proceed at the solemn, formal tempo of a minuet.

Shortage of artillery will have the opposite effect. It will bring attack to the fore—the active principle of movement. Marching, exertion and continuous effort will become arms in themselves, and war will be a brisker, rougher and more variegated business. Great events will be broken down into small change.

Where cavalry is plentiful, wide plains will be sought out and *sweeping* movements preferred. With the enemy at a distance, we can enjoy greater peace and comfort, without his being able to do the same. Since we are the masters of space, we can be daring in the use of bold flanking movements and generally more audacious maneuvers. Diversions and invasions, insofar as they constitute valid expedients in war, are easily executed.

A serious lack of cavalry impairs the mobility of an army, but without increasing its destructive powers as an excess of artillery does. The war will then be marked by prudent and methodical proceedings. In such a case, the natural tendencies are to stay close to the enemy so as to be able to keep an eye on him; never to make a sudden, or worse, a hasty movement; always to advance one's forces gradually, keeping them well together; and to favor defensive operations and those in rough country. If an attack is necessary, it should be made on the enemy's vital point by the shortest route.

These are the ways in which preponderance of one arm or another will affect the operational conduct of a war; yet they are seldom so complete or decisive that they play the only, or the principal, part in determining the nature of the whole operation. Whether one selects the instrument of strategic attack or of defense, one theater of operations or another, a major battle or some other method of destruction, will probably depend on other, weightier arguments.

Where this is not so, we are afraid that nonessentials have taken the place of essentials. But even in cases where the major issues have already been decided on the basis of other reasons, a certain amount of latitude remains in which preponderance in one branch can exert its influence. It is possible to be prudent and methodical in attack, and bold and enterprising in defense, and so on through every possible phase and nuance of military activity.

Conversely, the nature of a war can greatly affect the proportions of the arms of the service.

First, a peoples war, based on militia and home guard, will naturally involve large numbers of infantry. This means a shortage of equipment rather than of men, and equipment will be limited to the barest necessities. It is therefore quite possible to raise not one, but two or three battalions for every eight-gun battery.

Second, where the opposing sides are unevenly matched and the weaker is unable to resort to arming the people, or, what amounts to almost the same thing, raising a militia, an increase in artillery is certainly the fastest means of bolstering its forces and bringing about some sort of balance. One can thereby save manpower while intensifying the principal element of the forces, that is their destructive power. In any case such operations will probably be limited to a small theater, for which artillery will also be most appropriate. Frederick the Great relied on this means in the latter part of the Seven Years War.

Third, cavalry is suited to movement and major decisions. Therefore, its preponderance is important in operations over great distances, and in cases where one expects to carry out major and decisive blows. Bonaparte will serve as an example.

When we come to analyzing attack and defense, we shall see more clearly that no direct influence is exercised by these two forms of warfare as such. For the moment all we wish to point out is that, as a rule, both attacker and defender will operate in the same terrain, and that, in at least a great number of cases, their final intentions may be similar. The campaign of 1812 is relevant here.

It is a common view that in the Middle Ages the proportion of cavalry to infantry was far higher than now, and has gradually declined ever since. To some degree at least this is a misconception. On the average the proportion of cavalry in absolute numbers was probably not significantly larger; and one can easily confirm this by studying the actual figures for armed forces throughout the Middle Ages. We need only mention the masses of foot soldiers that made up the armies of the Crusaders or followed the German Emperors into Italy. It was the *importance* of cavalry that was much greater. Cavalry was the *more effective* arm, consisting of the elite; this made such a difference that, although cavalry was always smaller by far, it was always considered to be the decisive element; while foot soldiers were in low esteem and hardly ever mentioned. Hence the idea that their numbers were comparatively small. No doubt in some minor local incursions in Germany, France, and Italy, a small force consisting of cavalry alone was more common than it would be today; since it was the principal arm, this is not inconsistent.

But such cases are not conclusive when one considers the general picture in which they are greatly outnumbered by cases in which larger armies were involved. The custom of using large masses of relatively inefficient foot soldiers came to an end only when the feudal system of military service was replaced by that of hired mercenaries, and the conduct of war became dependent on money and recruiting—as it did during the Thirty Years War and the wars of Louis XIV. There might have been a general return to cavalry at that time if developments in firearms had not given fresh importance to the infantry. One effect was that infantry remained superior in number to cavalry. Even when infantry was weak, its ratio to cavalry during this period was one to one; when it was strong, the ratio was three to one.

As firearms developed further, cavalry steadily continued to lose importance. This is clear enough; but it must be understood that this development related not only to the weapons as such, and to skill in using them, but to the ability to employ troops thus equipped. At the battle of Mollwitz, the Prussians had reached a level of perfection in the use of firepower that has still not been surpassed. On the other hand, the deployment of infantry in rough country and the use of firearms in skirmishing developed only later, and must be considered a major advance in destructive power.

In our view, then, the relationship of cavalry to infantry has changed little in terms of numbers, but greatly in terms of importance. This may seem self-contradictory, but in fact is not. In the armies of the Middle Ages we find great masses of infantry, which, however, stood in no organic relation to the cavalry; foot soldiers were plentiful merely because cavalry was so expensive that all those who could not be equipped as cavalry automatically became infantry. Infantry was therefore merely making the best of necessity: if the quantity of cavalry had been determined only by its intrinsic value, no amount of it would have been too much. This explains why cavalry, though declining in importance, may still have enough significance to maintain that proportion in the armed forces which it has kept until our own times.

It is in fact remarkable that, at least since the War of the Austrian Succession, the ratio of cavalry to infantry has undergone no change at all and has remained between one-quarter and one-sixth. This seems to indicate that these proportions meet some natural need, thereby revealing a ratio that cannot be directly ascertained. But we doubt if this is really so, and believe that in all important instances other reasons are evident for maintaining such large numbers of cavalry.

Russia and Austria, for example, are inclined in this direction because they still maintain fragments of Tartar institutions in their political structures. Bonaparte could never be strong enough to suit his purpose: once he had exhausted the use of conscription, the only means to strengthen his army that remained open to him was to increase the auxiliary arms, which called more for money than for men. Besides, it is plain that the enormous extent of his military operations would place a greater emphasis than usual on cavalry.

It is well known that Frederick the Great took pains to recruit not a single man more than he reckoned his country could afford; his chief concern was to maintain the strength of his army as far as possible at the expense of other countries. It is easy to see that he had good reasons for this: his limited territory at that time did not even include West Prussia or Westphalia.

Cavalry not only required less manpower; it was also more easily recruited. His method of warfare, too, was based entirely on superior mobility. As a result while his infantry declined in numbers his cavalry kept increasing right up to the end of the Seven Years War. Yet even then it hardly amounted to more than a quarter of the infantry in the field.

Nor are examples lacking, during the same period, of armies taking the field exceptionally short of cavalry and still being able to emerge victorious. The outstanding case in point is the battle of Gross-Görschen. Counting only the divisions that took part in the battle, Bonaparte had 100,000 men—5,000 of them cavalry and 90,000 infantry. The allies had 70,000 men, of whom 25,000 were cavalry and 40,000 infantry. Bonaparte's cavalry was thus 20,000 short, and he had only 50,000 more infantry than his adversaries, when he ought to have had a superiority of 100,000. Since he won the battle in spite of the smaller margin, one may well ask whether he could possibly have lost it if he had had 140,000 infantry against the allies' 40,000.

After the battle, to be sure, the allied superiority in cavalry proved to be most valuable: Bonaparte captured hardly any trophies. Victory alone is not everything—but is it not, after all, what really counts?

These considerations make it hard to believe that the ratio of cavalry to infantry which was established eighty years ago and has persisted ever since is the normal one, arising out of the intrinsic value of both arms. We are more inclined to think that, after various fluctuations, the present tendency will continue, and that the constant number of cavalry will eventually be much lower than it is today.

Since the invention of cannon, and as cannon have been improved and reduced in weight, their number has naturally increased. Even so, since the time of Frederick the Great, the proportionate strength of artillery has remained fairly constant: two or three guns per thousand men—that is at the outset of a campaign. In the course of operations guns are not lost as fast as men, and so their proportion is a good deal higher by the end; possibly arriving at a ratio of three, four or five guns per thousand men. Only experience will determine whether these are the normal proportions, or whether guns can go on being increased without encumbering the whole conduct of war.

Let us now summarize the conclusions to which these arguments have led:

1. Infantry is the main branch of the service; the other two are supplementary.

2. A high degree of skill and vigor in the conduct of war can to some extent make up for a lack of the supplementary branches—assuming great numerical superiority in infantry. The higher the quality of the infantry, the easier this will be.
3. It is harder to do without artillery than without cavalry: artillery is the principal agent of destruction, and its use in action is more closely coordinated with the infantry's.
4. In general, artillery being the strongest agent of destruction and cavalry the weakest, one is always confronted with the question of how much artillery one can have without it being a disadvantage, and with how little cavalry one can manage.

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(Book Five) Chapter Eleven: Marches—Continued

Experience is the best guideline for the length of a march and the time it will require.

Modern armies have long been accustomed to consider a fifteen-mile march as a day's work. In extensive operations it must be reduced to an average of the miles in order to allow for the requisite days of rest on which necessary repairs and maintenance can be carried out.

A division of 8,000 men takes eight to ten hours for such a march in level country and on ordinary roads. In mountainous country, it will take ten to twelve. If a column consists of a number of divisions, a few hours longer will be required, even discounting the delayed starting time of the later divisions.

It is clear that the day is pretty well filled by such a march, and that one cannot compare the strain on a soldier loaded with his pack for ten or twelve hours with an ordinary fifteen-mile walk which would not take an individual more than five hours on a decent road.

Forced marches, if undertaken one at a time, may cover twenty-five miles, or thirty at the most; if they continue, only twenty.

A march of twenty-five miles will call for a rest stop of several hours, and a division of 8,000 men will not manage it in less than sixteen hours even on good roads. If the distance to be covered is thirty miles and several divisions are involved, one has to allow a minimum of twenty hours.

What concerns us here is a march by several complete divisions from one campsite to another, since this is the most common type that occurs in a theater of operations. Where several divisions are to form a single column, the first should be assembled and marched off in advance, and will consequently reach camp that much earlier. But this difference in time can never be so great as the time a division takes to pass a given point—the time required for what the French so aptly describe as its *découlement* (run-off). Thus the soldier is spared but little exertion, and each of the marches will take longer because of the larger number of troops

involved. Moving a division by similar methods of assembling and marching off its brigades one at a time is only rarely practicable; that is why the division has been treated as a unit.

On long route marches, with troops transferring from one billet to another, marching in small detachments and without points of assembly, they may indeed cover longer distances. In fact they will be longer because of the detours needed to reach their billets.

The maximum amount of time is taken up by marches on which troops have to be reassembled daily by divisions or even by corps, and must then still go to their billets. This type of march is advisable only with a relatively small body of troops and in areas rich in resources; in that case easier means of obtaining provisions and shelter will compensate sufficiently for a longer period of exertion. There can be no doubt that the Prussian army, on its retreat in 1806, was mistaken in the practice of putting up the troops in billets every night in order to feed them. Supplies could just as well have been procured in bivouacs, and the army need not have made immense exertions to cover some 250 miles in no less than fourteen days.

All such standards of time and distance will undergo so many changes whenever one encounters poor roads or mountainous country that it will be difficult to estimate accurately the time a certain march should take—let alone to set up any general rule. The best a theorist can do is to point out the pitfalls that beset the problem. In order to avoid them the most meticulous calculations, as well as a large margin for unforeseen delays, are necessary. Weather conditions and the state of the troops must also be taken into account.

Once tents had gone out of use and troops began to be supplied by requisitioning food on the spot, an army's baggage shrank considerably. One would expect the most important result to be an acceleration of mobility and, as a consequence, an increase in the range of a day's march. But this will only occur under certain circumstances.

The change did little to accelerate marches in the theater of operations. The reason is the well-known fact that whenever in earlier times the situation called for an exceptional amount of marching, the baggage had always been left behind or sent ahead, and, in general, separated from the troops for as long as movements of this kind were still in progress. Baggage, in point of fact, rarely had any influence on movements; once it had ceased to be a positive encumbrance, no more notice was taken of it—regardless of how much damage it might suffer. So the Seven Years War produced marches that have still not been surpassed: Lacy's, for instance, in 1760, in support of the Russian diversion toward Berlin. He covered the 220 miles from Schweidnitz through Lusatia to Berlin in ten days—a rate of 22 miles a day, which would be astounding even nowadays for a corps of 15,000 men.

The very change in the method of supplying the troops, on the other hand, has tended to retard a modern army's movements. Troops that have to do part of their foraging for themselves, as they often must, spend more time on it than they would need if they only had to get their rations from the bread-cart. Besides, on marches of substantial length one cannot allow large numbers

of troops to encamp all in one spot; divisions have to be dispersed to make their feeding easier. Finally, it usually happens that some part of the army, particularly the cavalry, has to be put up in billets. Taken altogether, all this causes considerable delay. Hence the fact that Bonaparte, when pursuing the Prussians and trying to cut off their retreat in 1806, and Blücher, intending to do the same to the French in 1813, both required ten days to cover only 150 miles or so. That was a rate which Frederick the Great achieved, baggage and all, when marching from Saxony to Silesia and back.

On the other hand, both large and small units of troops have increased considerably in mobility and flexibility because the amount of baggage has decreased. For one thing, while cavalry and artillery remain at the same level the number of horses is reduced, thereby reducing the need for forage. For another there is less constraint in occupying positions, since one no longer has to worry all the time about the safety of an endless train of baggage in the rear.

After lifting the siege at Olmütz in 1758, Frederick the Great moved with 4,000 wagons, which were covered by half of his army split into battalions and even companies. A march like that would be impossible today, even when facing the most timid of adversaries.

On long route marches—for example, from the Tagus to the Niemen—the benefit is, of course, more perceptible; while a normal day's march is about the same because of the number of wagons still required, in cases of urgency it may be increased without the same degree of sacrifice.

In general, the reduction of baggage will result in a saving of effort rather than an acceleration of movement.

(Book Five) Chapter Twelve: Marches—Concluded

At this point we must examine the damaging effects of marches on the fighting forces. These are so great that they must rank as a distinct active factor, comparable to the engagement.

A single moderate march will not blunt the instrument; but a series of moderate marches will begin to tell, while a series of strenuous marches will naturally do much greater harm.

In the zone of operations the lack of provisions and shelter, badly rutted roads and the need to be constantly prepared for battle, are the causes of the disproportionate exertions which take their toll of man and beast, wagons and clothing.

It is commonly said that a long period of rest is not good for the physical health of an army, and that there is more sickness at such times than during periods of moderate activity. It may well be that sickness does occur when soldiers are crowded together in cramped quarters, but it can occur just as easily in billets along the march. The cause of such sickness should never be

attributed to a lack of fresh air and movement, since these may so easily be provided by exercises.

Consider the difference to a man's unstable and upset organism between falling ill indoors and falling ill on the open road, mired in mud and rain and loaded down by his pack. Even if he is taken ill in camp, he can soon be sent to the nearest village where medical help of some sort will be found; but if stricken on a march he lies by the road for hours on end without any relief whatsoever, and then must drag himself along as a straggler for miles. How many minor ailments this will aggravate; how many serious ones will end in death! Consider also the dust and burning heat of summer, when even a moderate march may cause heat exhaustion. Tortured by parching thirst, the soldier will rush to any cold spring, only to catch some disease and his death.

None of this is meant to say that there should be any less activity in warfare. Tools are there to be used, and use will naturally wear them out. Our only aim is clarity and order; we are opposed to bombastic theories that hold that the most overwhelming surprise, the fastest movement or the most restless activity cost nothing; that they are rich mines which lie unused because of the generals' indolence. The final product may indeed be compared to that of gold and silver mines: one looks only at the end result and forgets to ask about the cost of the labor that went into it.

Lengthy marches outside the theater of war are normally made under easier conditions, and daily casualties are fewer. On the other hand, the slightest sickness usually keeps a man away from his unit for a long time: it is difficult for the convalescent to catch up with the advancing army.

In the case of cavalry there is a steady increase in lame and sore-backed horses; vehicles tend to break down, and confusion results. A march of 500 miles or more will always cause an army to arrive at its destination in a highly weakened condition, especially where horses and wagons are concerned.

If a march of that sort must be made within the theater of war under the enemy's eyes, the disadvantages add up. Where substantial numbers are involved and the general conditions are adverse, losses can mount to unbelievable proportions.

Let us give a few examples to illustrate our point.

When Bonaparte crossed the Niemen on 24 June 1812, his enormous center, which he subsequently led to Moscow, numbered 301,000 men. At Smolensk on 15 August he detached 13,500 men, so 287,500 men should have been left. The actual strength of his army, however, was only 182,000 men—which means that 105,500 had been lost.* Bearing in mind that only two engagements worth the name had so far taken place—one between Davout and Bagration

* All these figures are taken from Chambray (original footnote).

and the other between Murat and Tolstoy-Ostermann—the French battle casualties may have been 10,000 men at most. The losses due to sickness and stragglers for this period of 52 days and an advance of about 350 miles would thus number 95,000 men, or about one third of the whole army.

Three weeks later, at the battle of Borodino, losses (including those in action) had reached 144,000 men, and at Moscow, a week later, they came to 198,000 men. Overall, in the first of the above periods, the army's daily rate of loss was 1 in 150 of the original total strength; in the second period 1 in 120; and in the third, 1 in 19.

Bonaparte's advance was indeed unrelenting, from the crossing of the Niemen up to Moscow; but one must bear in mind that it took 82 days to cover only about 600 miles, and that the army twice stopped altogether—once for some 14 days at Vilna and the other time for some 11 days at Vitebsk—which must have given many stragglers time to catch up. This fourteen weeks' advance was not made at the worst time of year nor on the worst of roads: it was made in summer and the roads were mostly sandy. The impeding factors were the enormous masses of troops moving along a single road, the shortage of supplies, and an enemy who, though in retreat, was not by any means in flight.

We shall not even mention the French retreat—or, more accurately, the army's advance from Moscow to the Niemen—but perhaps we should observe that the pursuing Russian army left the Kaluga area with 120,000 men and arrived in Vilna with 30,000. How few were lost in actual fighting during that time is common knowledge.

Let us take one more example, this one from Blücher's campaign of 1813 in Saxony and Silesia, which was notable not for any length of march, but for a series of movements to and fro. York's corps opened the campaign on 16 August with about 40,000 men and by 19 October numbered a mere 12,000. The main engagements that it fought—at Goldberg, Löwenberg, on the Katzbach, at Wartenburg and the battle of Möckern (Leipzig) cost, according to the best authorities, 12,000 men. Consequently, in eight weeks its losses from other causes came to 16,000 men—two-fifths, that is, of its initial strength.

Great wear and tear on one's own forces, therefore, must be expected if one intends to wage a mobile war. All other plans must be adjusted to that fact; and above all, replacements must be provided for.

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(Book Six) Chapter Six: Scope of the Means of Defense

In Chapters Two and Three of this book we have shown that defense has a natural superiority in the use of the means—other than the absolute strength and quality of the forces—that determine tactical and strategic success. Among them are advantage of terrain, surprise, concentric attack, advantages of the theater of operations, support of the populace, and the harnessing of moral forces. It may be useful to cast another glance at the range of resources that are preeminently at the disposal of the defender. They may be compared to the various types of pillar on which his edifice rests.

1. *Militia*. In recent times the militia has been employed not only at home but also to invade enemy territory, and there is no denying that its organization in some countries—Prussia, for instance—is such that it can almost be considered part of the regular army. In such cases it is not purely an instrument of defense. Still, one should not forget that its vigorous use in the years 1813, 1814, and 1815 originated in defensive warfare; that in only the minority of countries is it organized as in Prussia; and that wherever its organization is imperfect it will be better suited to defense than to attack. Quite apart from this, the concept of a militia embodies the idea of an extraordinary and largely voluntary participation in the war by the whole population, with its physical strength, its wealth, and its loyalty. The less the institution resembles this model, the more a militia will become a regular army under another name. It will then have the advantages of a regular army, but it will also be lacking in the advantages of a genuine militia: a reservoir of strength that is much more extensive, much more flexible, and whose spirit and loyalty are much easier to arouse. These factors are the essentials of a militia. Its organization must leave scope for the participation of the populace. If it does not, any great hopes one may have from it are mere delusions.

The close relationship between the popular nature of a militia and the concept of defense is unmistakable, and thus also the fact that such a militia is likelier to be a part of defense than of attack. The qualities in which it is superior to the aggressor will mainly show in the course of defensive action.

2. *Fortresses*. The part played by the attacker's fortresses is limited to those that are closest to the border and is not very important. The influence of the defender's fortresses extends more deeply into his country; therefore more of them are involved, and the contribution made by each is incomparably greater. A fortress that attracts, and holds out against, a full-scale siege will naturally weigh much more in the scales of war than one that is so strongly fortified that it is clearly impregnable, and therefore neither really engages nor destroys the enemy's forces.

3. *The People*. Although one single inhabitant of a theater of operations has as a rule no more noticeable influence on the war than a drop of water on a river, the *collective influence* of the country's inhabitants is far from negligible, even when we are not dealing with popular insurrection. At home, everything works more smoothly—assuming the public is not wholly disaffected. Nothing, major or minor, is done for the enemy save under *force majeure*, which the troops must apply at the expense of their own strength and exertions. The defender can get all he wants. It may not be freely given, as the fruit of enthusiastic loyalty; usually it is due to a long

tradition of civil obedience which is the citizen's second nature, and also to orders from the government, and other constraints not originating with the military. But voluntary collaboration born of genuine attachment is also always of great value; particularly it will never be wanting when no actual sacrifices are involved. Let us mention just one example, which is of great importance for the conduct of operation: information. We refer not so much to the single outstandingly significant report, but to the countless minor contacts brought about by the daily activities of our army. Here the defender's close relations with the population give him a general superiority. The smallest patrol, every picket, every sentry, every officer on a mission, all have to turn to the local inhabitants for news of friend or foe.

If we proceed from these general conditions which always apply, to the special cases in which the population begins to participate in the fighting itself, until we reach the highest level at which, as in Spain, the war is primarily waged by the people, it will be understood that we are dealing not simply with an intensification of popular support but with a genuine new source of power; which entitles one to say that:

4. *A people in arms*, or a home guard, may be listed as a specific means of defense.

5. Finally, a defender's *allies* can be cited as his ultimate source of support. By this we do not mean the ordinary type of ally such as the aggressor also possesses, but the kind who have a *substantial* interest in maintaining the integrity of their ally's country. If we consider the community of states in Europe today, we do not find a systematically regulated balance of power and of spheres of influence, which does not exist and whose existence has often been justifiably denied; but we certainly do find major and minor interests of states and peoples interwoven in the most varied and changeable manner. Each point of intersection binds and serves to balance one set of interests against the other. The broad effect of all these fixed points is obviously to give a certain amount of cohesion to the whole. Any change will necessarily weaken this cohesion to some degree. The sum total of relations between states thus serves to maintain the stability of the whole rather than to promote change; at least, that *tendency* will generally be present.

This, we suggest, is how the idea of the balance of power should be interpreted; and this kind of balance is bound to emerge spontaneously whenever a number of civilized countries are in multilateral relations.

To what extent this tendency of the common interest helps maintain existing conditions is another question. One can certainly imagine changes in relations between individual states that would strengthen this effect, and others that could weaken it. The first kind are attempts to perfect the political balance, and as their aim reflects that of the common interest, the majority of the parties would be in favor. The other kind, however, are deviations, hyperactivity of individual states, actual cases of disease; one should not be surprised that diseases occur in a loosely constituted polity such as a multitude of states of various sizes: after all, they also occur in the marvelously structured organic whole of all living nature.

It may be objected, of course, that history offers examples of single states effecting radical changes that benefit themselves alone, without the slightest effort by the rest to hinder them. There have even been cases in which a single state has managed to become so powerful that it could virtually dictate to the rest. We would reply that this does not disprove the tendency on the part of common interests to support the existing order; all it shows is that at the moment the tendency was not sufficiently effective. Aspiration toward a goal is not the same as motion, but that is not to say that it is a nullity—witness the dynamics of the heavens.

We therefore argue that a state of balance tends to keep the existing order intact—always assuming that the original condition was one of calm, of equilibrium. Once there has been a disturbance and tension has developed it is certainly possible that the tendency toward equilibrium will shift direction and try to bring about a particular change. It lies in the nature of things, however, that such a change can affect only a few states, never the majority. Most states will certainly assume that the collective interest will always represent and assure their stability. It is thus also certain that in defending itself every individual state whose relations with the rest are not already strained will find that it has more friends than enemies.

One may laugh at these reflections and consider them utopian dreams, but one would do so at the expense of philosophic truth. Philosophy teaches us to recognize the relations that essential elements bear to one another, and it would indeed be rash from this to deduce universal laws governing every single case, regardless of all haphazard influences. Those people, however, who "*never rise above anecdote*" as a great writer said, and who would construct all history of individual cases—starting always with the most striking feature, the high point of the event, and digging only as deep as suits them, never get down to the general factors that govern the matter. Consequently their findings will never be valid for more than a single case; indeed they will consider a philosophy that encompasses the general run of cases as a mere dream.

If it were not for that common effort toward maintenance of the *status quo*, it would never have been possible for a number of civilized states to coexist peacefully over a period of time; they would have been bound to merge into a single state. The fact that Europe, as we know it, has existed for over a thousand years can only be explained by the operation of these general interests; and if collective security has not always sufficed to maintain the integrity of each individual state, the fact should be ascribed to irregularities in the life of the system as a whole which instead of destroying were absorbed into it.

There is no need to review the countless instances in which changes that might have upset the balance too severely were prevented or reversed by the more or less overt reaction of the other states. The briefest glance at history will reveal them. One case, however, calls for mention—one which is always trotted out by those who ridicule the very idea of political balance—because it seems to be an extremely relevant example of how a harmless, unaggressive country perished without any other coming to its assistance. We refer to Poland. The fact that a state of eight million inhabitants could vanish, partitioned by three others, with none of the remaining

states resorting to arms, will seem at first glance to be a case that either proves the political balance to be generally ineffective or at least shows how ineffective it can be in given circumstances. The fact that so large a state could vanish and fall prey to others among which were already numbered some of the most powerful (Russia and Austria) seemed an extreme case. If such an event was unable to arouse the common interest of the community of nations, one could argue that the effectiveness of the common interest in assuring the survival of single states is an illusion. We insist, however, that a single case, however striking, cannot vitiate a general principle; and further contend that the demise of Poland is not as strange as it appears. Could Poland really be considered a European state, an equal among equals in the European community of nations? She could not: she was a Tartar state. But instead of lying on the Black Sea, like the Tartars of the Crimea, on the fringe of the European community, she was located in the midst of it on the Vistula. In saying this we do not wish to slight the Poles or justify the partition of their country. Our only concern is to face the facts. Poland had not really played a political part for a century or so; she had merely been a cause of dissension among other states. Given her condition and the kind of constitution she had, she could not possibly maintain her independence. A radical change from these Tartar-like conditions could have been accomplished in the space of fifty or a hundred years, provided her leaders had been willing. They, however, were too much Tartars themselves to desire such a change. Their chaotic public life and their boundless irresponsibility went together, and thus they were swallowed up by the abyss. Long before the country was partitioned, the Russians were doing what they liked there. The idea of Poland as an independent state with meaningful frontiers no longer corresponded to the facts and nothing was surer than that Poland would have become a Russian province if she had not been partitioned. Had things been otherwise, had Poland been a country able to defend itself, the three powers would not have so lightly undertaken to partition it, and the powers most interested in maintaining its independence (France, Sweden and Turkey) would have been able to collaborate in its survival. But it is asking too much when a state's integrity must be maintained entirely by others.

Partitioning Poland had been under discussion for more than a century. Since then, the country had lost the character of a private home and had become more like a public highway on which foreign armies could disport themselves whenever and however they pleased. Were the other states supposed to put a stop to that? Were they supposed to be continually in arms in order to guard the political sanctity of the Polish frontier? That would have been to ask for the morally impossible. Poland in those days was, politically speaking, little better than an uninhabited steppe. This open prairie land, located in the midst of other states, could neither be shielded from their encroachments, nor could its political integrity be guaranteed by others. For all these reasons one should find the silent demise of Poland no more strange than that of the Crimean Tartar state. The Turks were certainly more concerned about the Crimea than any of the European states were in saving Poland; but they realized that it would simply be a waste of effort to try and protect an unresisting steppe.

To return to our subject: we believe we have shown that as a rule the defender can count on outside assistance more than can the attacker; and the more his survival matters to the rest—

that is, the sounder and more vigorous his political and military condition—the more certain he can be of their help.

Naturally, the factors listed here as being the real means of defense will not all be available in every case. Some may be missing in one case, some in another; but they all come under the general heading of defense.

[. . .]

(Book Eight) Chapter Three

[. . .]

The end of the seventeenth century, the age of Louis XIV, may be regarded as that point in history when the standing army in the shape familiar to the eighteenth century reached maturity. This military organization was based on money and recruitment. The states of Europe had achieved complete internal unity. With their subjects' services converted into money payments, the strength of governments now lay entirely in their treasuries. Thanks to cultural developments and to a progressively more sophisticated administration, their power was very great compared with earlier days. France put several hundred thousand regular troops in the field, and other states could do likewise in proportion to their populations.

International relations had changed in other ways as well. Europe was now split between a dozen monarchies and a handful of republics. It was conceivable that two states could fight a major war without, as in former times, involving twenty others. The possible political alignments were still many and various; but they could be surveyed, and their probability at each given instant could be evaluated.

Domestically almost every state had been reduced to an absolute monarchy; the privileges and influence of the estates had gradually disappeared. The executive had become completely unified and represented the state in its foreign relations. Political and military institutions had developed into an effective instrument, with which an independent will at the center could now wage war in a form that matched its theoretical concept.

During this period, moreover, three new Alexanders appeared—Gustavus Adolphus, Charles XII, and Frederick the Great. With relatively limited but highly efficient forces each sought to turn his small state into a large monarchy, and crush all opposition. Had they been dealing only with Asiatic empires they might have resembled Alexander more closely. But in terms of risks that they ran, they undeniably foreshadowed Bonaparte.

But, if war gained in power and effectiveness, it lost in other respects.

Armies were paid for from the treasury, which rulers treated almost as their privy purse or at least as the property of the government, not of the people. Apart from a few commercial matters, relations with other states did not concern the people but only the treasury or the government. That at least was the general attitude. A government behaved as though it owned and managed a great estate that it constantly endeavored to enlarge—an effort in which the inhabitants were not expected to show any particular interest. The Tartar people and army had been one; in the republics of antiquity and during the Middle Ages the people (if we confine the concept to those who had the rights of citizens) had still played a prominent part; but in the circumstances of the eighteenth century the people's part had been extinguished. The only influence the people continued to exert on war was an indirect one—through its general virtues or shortcomings.

War thus became solely the concern of the government to the extent that governments parted company with their peoples and behaved as if they were themselves the state. Their means of waging war came to consist of the money in their coffers and of such idle vagabonds as they could lay their hands on either at home or abroad. In consequence the means they had available were fairly well defined, and each could gauge the other side's potential in terms both of numbers and of time. War was thus deprived of its most dangerous feature—its tendency toward the extreme, and of the whole chain of unknown possibilities which would follow.

The enemy's cash resources, his treasury and his credit, were all approximately known; so was the size of his fighting forces. No great expansion was feasible at the outbreak of war. Knowing the limits of the enemy's strength, men knew they were reasonably safe from total ruin; and being aware of their own limitations, they were compelled to restrict their own aims in turn. Safe from the threat of extremes, it was no longer necessary to go to extremes. Necessity was no longer an incentive to do so, and the only impulse could come from courage and ambition. These, on the other hand, were strongly curbed by the prevailing conditions of the state. Even a royal commander had to use his army with a minimum of risk. If the army was pulverized, he could not raise another, and behind the army there was nothing. That enjoined the greatest prudence in all operations. Only if a decisive advantage seemed possible could the precious instrument be used, and to bring things to that point was a feat of the highest generalship. But so long as that was not achieved, operations drifted in a kind of vacuum; there was no reason to act, and every motivating force seemed inert. The original motive of the aggressor faded away in prudence and hesitation.

The conduct of war thus became a true game, in which the cards were dealt by time and by accident. In its effect it was a somewhat stronger form of diplomacy, a more forceful method of negotiation, in which battles and sieges were the principal notes exchanged. Even the most ambitious ruler had no greater aims than to gain a number of advantages that could be exploited at the peace conference.

This limited, constricted form of war was due, as we said, to the narrow base on which it rested. But the explanation why even gifted commanders and monarchs such as Gustavus Adolphus,

Charles XII, and Frederick the Great, with armies of exceptional quality, should have risen so little above the common level of the times, why even they had to be content with moderate success, lies with the balance of power in Europe. With the multitude of minor states in earlier times, any one of them was prevented from rapidly expanding by such immediate and concrete factors as their proximity and contiguity, their family ties and personal acquaintances. But now that states were larger and their centers farther apart, the wide spread of interests they had developed became the factor limiting their growth. Political relations, with their affinities and antipathies, had become so sensitive a nexus that no cannon could be fired in Europe without every government feeling its interest affected. Hence a new Alexander needed more than his own sharp sword: he required a ready pen as well. Even so, his conquests rarely amounted to very much.

Even Louis XIV, though bent on destroying the balance of power in Europe and little troubled by the general hostility he faced by the end of the seventeenth century, continued waging war along traditional lines. While his military instrument was that of the greatest and richest monarch of all, its character was no different from that of his opponents'.

It had ceased to be in harmony with the spirit of the times to plunder and lay waste the enemy's land, which had played such an important role in antiquity, in Tartar days and indeed in mediaeval times. It was rightly held to be unnecessarily barbarous, an invitation to reprisals, and a practice that hurt the enemy's subjects rather than their government—one therefore that was ineffective and only served permanently to impede the advance of general civilization. Not only in its means, therefore, but also in its aims, war increasingly became limited to the fighting force itself. Armies, with their fortresses and prepared positions, came to form a state within a state, in which violence gradually faded away.

All Europe rejoiced at this development. It was seen as a logical outcome of enlightenment. This was a misconception. Enlightenment can never lead to inconsistency: as we have said before and shall have to say again, it can never make two and two equal five. Nevertheless this development benefited the peoples of Europe, although there is no denying that it turned war even more into the exclusive concern of governments and estranged it still further from the interests of the people. In those days, an aggressor's usual plan of war was to seize an enemy province or two. The defender's plan was simply to prevent him doing so. The plan for a given campaign was to take an enemy fortress or prevent the capture of one's own. No battle was ever sought, or fought, unless it were indispensable for that purpose. Anyone who fought a battle that was not strictly necessity, simply out of innate desire for victory, was considered reckless. A campaign was usually spent on a single siege, or two at the most. Winter quarters were assumed to be necessary for everyone. The poor condition of one side did not constitute an advantage to the other, and contact almost ceased between both. Winter quarters set strict limits to the operations of a campaign.

If forces were too closely balanced, or if the more enterprising side was also clearly the weaker of the two, no battle was fought and no town was besieged. The whole campaign turned on the retention of certain positions and depots and the systematic exploitation of certain areas.

So long as this was the general style of warfare, with its violence limited in such strict and obvious ways, no one saw any inconsistency in it. On the contrary, it all seemed absolutely right; and when in the eighteenth century critics began to analyze the art of war, they dealt with points of detail, without bothering much about fundamentals. Greatness, indeed perfection, was discerned in many guises, and even the Austrian Field-Marshal Daun—to whom it was mainly due that Frederick the Great completely attained his object and Maria Theresa completely failed in hers—could be considered a great commander. Only from time to time someone of penetrating judgment—of real common sense—might suggest that with superior forces one should achieve positive results; otherwise the war, with all its artistry, was being mismanaged.

This was the state of affairs at the outbreak of the French Revolution. Austria and Prussia tried to meet this with the diplomatic type of war that we have described. They soon discovered its inadequacy. Looking at the situation in this conventional manner, people at first expected to have to deal only with a seriously weakened French army; but in 1793 a force appeared that beggared all imagination. Suddenly war again became the business of the people—a people of thirty millions, all of whom considered themselves to be citizens. We need not study in detail the circumstances that accompanied this tremendous development; we need only note the effects that are pertinent to our discussion. The people became a participant in war; instead of governments and armies as heretofore, the full weight of the nation was thrown into the balance. The resources and efforts now available for use surpassed all conventional limits; nothing now impeded the vigor with which war could be waged, and consequently the opponents of France faced the utmost peril.

The effects of this innovation did not become evident or fully felt until the end of the revolutionary wars. The revolutionary quarrels did not yet advance inevitably toward the ultimate conclusion: the destruction of the European monarchies. Here and there the German armies were still able to resist them and stem the tide of victory. But all this was really due only to technical imperfections that hampered the French, and which became evident first in the rank and file, then in their generals, and under the Directory in the government itself.

Once these imperfections were corrected by Bonaparte, this juggernaut of war, based on the strength of the entire people, began its pulverizing course through Europe. It moved with such confidence and certainty that whenever it was opposed by armies of the traditional type there could never be a moment's doubt as to the result. Just in time, the reaction set in. The Spanish War spontaneously became the concern of the people. In 1809 the Austrian government made an unprecedented effort with reserves and militia; it came within sight of success and far surpassed everything Austria had earlier considered possible. In 1812 Russia took Spain and Austria as models: her immense spaces permitted her measures—belated though they were—to take effect, and even increased their effectiveness. The result was brilliant. In Germany,

Prussia was first to rise. She made the war a concern of the people, and with half her former population, without money or credit, she mobilized a force twice as large as she had in 1806. Little by little the rest of Germany followed her example, and Austria too—though her effort did not equal that of 1809—exerted an exceptional degree of energy. The result was that in 1813 and 1814 Germany and Russia put about a million men into the field against France—counting all who fought and fell in the two campaigns.

Under these conditions the war was waged with a very different degree of vigor. Although it did not always match the intensity of the French, and was at times even marked by timidity, campaigns were on the whole conducted in the new manner, not in that of the past. In the space of only eight months the theater of operations changed from the Oder to the Seine. Proud Paris had for the first time to bow her head, and the terrible Bonaparte lay bound and chained.

Since Bonaparte, then, war, first among the French and subsequently among their enemies, again became the concern of the people as a whole, took on an entirely different character, or rather closely approached its true character, its absolute perfection. There seemed no end to the resources mobilized; all limits disappeared in the vigor and enthusiasm shown by governments and their subjects. Various factors powerfully increased that vigor: the vastness of available resources, the ample field of opportunity, and the depth of feeling generally aroused. The sole aim of war was to overthrow the opponent. Not until he was prostrate was it considered possible to pause and try to reconcile the opposing interests.

War, untrammelled by any conventional restraints, had broken loose in all its elemental fury. This was due to the peoples' new share in these great affairs of state; and their participation, in turn, resulted partly from the impact that the Revolution had on the internal conditions of every state and partly from the danger that France posed to everyone.

Will this always be the case in [the] future? From now on will every war in Europe be waged with the full resources of the state, and therefore have to be fought only over major issues that affect the people? Or shall we again see a gradual separation taking place between government and people? Such questions are difficult to answer, and we are the last to dare to do so. But the reader will agree with us when we say that once barriers—which in a sense consist only in man's ignorance of what is possible—are torn down, they are not so easily set up again. At least when major interests are at stake, mutual hostility will express itself in the same manner as it has in our own day.

At this point our historical survey can end. Our purpose was not to assign, in passing, a handful of principles of warfare to each period. We wanted to show how every age had its own kind of war, its own limiting conditions, and its own peculiar preconceptions. Each period, therefore, would have held to its own theory of war, even if the urge had always and universally existed to work things out on scientific principles. It follows that the events of every age must be judged in the light of its own peculiarities. One cannot, therefore, understand and appreciate the commanders of the past until one has placed oneself in the situation of their times, not so much

by a painstaking study of all its details as by an accurate appreciation of its major determining features.

But war, though conditioned by the particular characteristics of states and their armed forces, must contain some more general—indeed, a universal—element with which every theorist ought above all to be concerned.

The age in which this postulate, this universally valid element, was at its strongest was the most recent one, when war attained the absolute in violence. But it is no more likely that war will always be so monumental in character than that the ample scope it has come to enjoy will again be severely restricted. A theory, then, that dealt exclusively with absolute war would either have to ignore any case in which the nature of war had been deformed by outside influence, or else it would have to dismiss them all as misconstrued. That cannot be what theory is for. Its purpose is to demonstrate what war is in practice, not what its ideal nature ought to be. So the theorist must scrutinize all data with an inquiring, a discriminating, and a classifying eye. He must always bear in mind the wide variety of situations that can lead to war. If he does, he will draw the outline of its salient features in such a way that it can accommodate both the dictates of the age, and those of the immediate situation.

We can thus only say that the aims a belligerent adopts, and the resources he employs, must be governed by the particular characteristics of his own position; but they will also conform to the spirit of the age and to its general character. Finally, they must always be governed by the general conclusions to be drawn from the nature of war itself.

Source of English translation: Carl von Clausewitz, *On War* (1832), edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976, pp. 285-91, 319-24, 372-76, 588-94.

PARET, PETER; *ON WAR*.

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