

## CHAPTER XIII

### THE PRINCIPLES OF PRESSURE

The first rule of practice is to do all things at the right time and in their proper place ; to proportion the means to the ends and the ends to the means ; above all, to know what is possible, and to confine one's endeavours within the limits of the feasible.—J. J. SYLVESTER.

#### I. THE PRINCIPLE OF CONCENTRATION

THE relationship of the three controlling principles of war to the remaining six may be expressed as follows :

- (i.) The principle of direction works through that of distribution by means of concentration.
- (ii.) The principle of determination works through that of endurance by means of surprise.
- (iii.) And the principle of mobility works through that of security by means of offensive action.

Though the three controlling principles are the resultant of the three principles of pressure and the three of resistance, they nevertheless direct, determine, and move the elements from which these principles originate ; three being active and three being stable, the former being based on the latter. As controlled activity is our aim, for nothing can be economically attained in war by pure resistance, I will examine the principles of pressure first ; these are the principles of concentration, surprise, and offensive action.

Clausewitz, when considering the " Plan of War when the Destruction of the Enemy is the Object," declares that " two fundamental principles reign throughout the whole plan of the war, and serve as a guide for everything else.

" The first is : to reduce the weight of the enemy's power into as few centres of gravity as possible, into one if it can be done ; again, to confine the attack against these centres of force to as few principal undertakings as possible, and one if possible ; lastly, to keep all secondary undertakings as subordinate as possible. In a word, the first principle is *to concentrate as much as possible.*

“ The second principle runs thus—*to act as swiftly as possible* ; therefore to allow of no delay or detour without sufficient reason.”<sup>1</sup>

Clausewitz drew most of his ideas from a close study of the Napoleonic wars, in which, again and again, he saw the Emperor applying the principle of concentration. In the *Correspondance de Napoléon*, again and again, may be read sentences such as the following :

Your army is too dispersed ; it should always march in such a manner as to be able in a single day to unite on any one battlefield. With 15,000 men I could beat your 36,000.<sup>2</sup>

My intention is to concentrate all my forces on my extreme right . . . in such a way as to have nearly 200,000 men concentrated on the same battlefield.<sup>3</sup>

There are systems of waging war just as there are of carrying out sieges. Concentrate fire against a single point, and once the breach is made equilibrium is broken, all action becomes useless, and the place is taken.<sup>4</sup>

For concentration of force to be effected with rapidity, the framework of every plan must be extremely elastic, since conditions are always changing, and our knowledge of them is generally so limited that a large margin must be left over for the unexpected ; consequently concentration of force is closely related, not only to distribution and direction of force, but to endurance and surprise.

Once our object has been decided on and the direction towards our objective fixed, the next question is to concentrate force against this objective—that is, to seek a decision.

If we decide that we can securely concentrate superiority of force against the decisive point, then our concentration will normally follow the line of greatest traction, as the initiative is ours ; but, if security is doubtful, then we must decide between this line and the line of least resistance—that is, the line along which opposition will be weakest ; if, however, superiority be deficient, we must create a line of greatest traction, or of least resistance, by manœuvre or surprise.

In the first case, the condition which governs the line of greatest traction is our own distribution ; in the second case, the condition which governs the line of least resistance is the enemy's distribution, and in the third, the main condition is the relationship between our own and the enemy's distribution. Finally, the line we should choose is the one which will enable us to attain our object with the highest economy of force.

<sup>1</sup> *On War*, vol. iii., pp. 140, 141.

<sup>2</sup> *Correspondance*, xii., No. 9808.

<sup>3</sup> *Ibid.*, xiii., No. 10920.

<sup>4</sup> *Correspondance, inédite*, 13th July, 1794.

Once we have decided where to effect our concentration and how to secure its movement by correct distribution of force, our next problem is the organization of our force for offensive action of a decisive character. We must give it structure, and see that this structure can be maintained and controlled. Here the solution centres very largely round the strength of our reserves.

Having organized our hammer-head, we must next see that the moral and physical forces which wield the weapon are so expended that endurance is maintained ; this demands a detailed examination of the conditions in which expenditure of force will take place.

I will now examine a few, and only a few, of the many aspects of this principle.

## 2. THE DIRECTION OF CONCENTRATION

Of all the principles of war the best known is probably that of concentration of force, and yet it is one which is constantly being neglected or misapplied. One of the reasons for this is that, though during peace-time military conditions are studied, the reality of war is forgotten, and directly war is declared this reality manifests as a fog which obscures or distorts actualities to such an extent that mental balance is lost, and without this balance concentration is most difficult to establish.

If we intend to concentrate a force of men, we must first know where the men are, and, secondly, the place at which we intend to mass them. As we generally know where they are, the second question is the only one which need be considered. Where, then, should we mass them ?

This question cannot be answered off-hand. We cannot always, like von Moltke, say : " Direction, Paris ; objective, the enemy wherever met," unless we know that by advancing on Paris the enemy will place himself between Paris and ourselves. We cannot know this for certain, but there are many conditions which we can know—such as the nature of the theatre of war ; the system of communications traversing it ; the fortresses securing these communications ; the commercial and industrial centres ; and a host of other factors. From these we can plan out a strategical and tactical map on the lines of a geological chart, and from this map we can learn the possible and then the probable movements of the enemy.

As we seldom can take it for granted that the enemy will adopt one definite course of action, we cannot concentrate our forces against one sector of a given front, therefore at the commencement of a campaign, however offensive may be our intentions,

without losing freedom of movement, we should hold as large a reserve as possible in hand. This reserve we should cover and secure by a screen of strategic forces or advanced guards, the duty of which is to discover the enemy. Once contact is gained, then can our strategical plan be developed into a tactical one.

Directly the battle area has been selected, concentration begins with the application of the principle of distribution of force. The area is divided into defensive and offensive zones. In the former the idea is to resist attack, and in the latter to deliver it. By applying distribution of force we settle the question of bulk numbers, and, once the bulk we have allotted for offensive action has been decided on, the next step is to distribute it in such a manner that concentration of force is attained or attainable at the decisive point.

Leaving subsidiary operations out of the question, we first of all select our decisive point of attack, and then plan our main attack with a view to assist us in gaining this point. The object of the main attack is not to seize this point, but to prepare the way for a fresh body of troops to do so. The main attack must, therefore, through offensive action, force the enemy to draw on his reserves, so that freedom of action may be gained for our own reserves. Frequently it happens that we are unable to select a decisive point before engaging the enemy—in this case, power to apply the principle of concentration must be drawn from the same source, namely the reserves. The more it becomes necessary to fight for information, paradoxical as it may seem, the stronger must our reserves be. Consequently, if seeking information, through offensive action, demands so great an expenditure of force as to lead to a depletion of the reserves, more often than not, the wiser course is to assume a defensive attitude and let the enemy attack. Though this may mean that the enemy will push our defensive forces back, it does not necessarily mean that by so doing he has gained the initiative, for the initiative lies in the potential strengths of the reserves, and he who possesses the strongest reserves, as long as they are well placed, is master of this deciding force.

### 3. THE RELATIONSHIP OF CONCENTRATION TO RESERVE FORCE

In the application of the principle of concentration a frequent mistake is to mass offensive forces against a selected point when it is impossible to surprise this point. This mistake originates in failure to appreciate that concentration, in nine cases out of

ten, means *keeping* troops out of battle, and not thrusting them in. Men are not machines, and even machines require periods of rest and overhauling. Men have a limited physical endurance, and it is this endurance which must be economized. If 10,000 men attack a position simultaneously, the majority of these men will be exhausted simultaneously. If 6,000 men attack, and 4,000 are held in reserve, even if the enemy numbers 10,000, by the time the energy of the 6,000 is exhausted, that of the 4,000 in reserve will, in all probability, be greater than the residual energy of the enemy—that is to say, if he has employed the whole of his forces in the attack. In practice, as well as in theory, reserves can seldom be too strong. Again, the supply of reserves must be continuous, by which I mean that at no time during a battle or campaign should a reserve force be entirely used up. This means that directly a commander is compelled to draw on his reserves he should simultaneously withdraw exhausted troops to take their place. As the recuperation of these troops will depend on the residual energy possessed by them at the time of withdrawal, unless the original reserves are exceedingly strong, these troops should be withdrawn before their endurance, especially moral endurance, is exhausted. It follows, therefore, that the true psychological moment to withdraw troops into reserve is immediately after they have gained a success, and not when they are so used up that failure stares them in the face.

A general should always remember that a shattered front may demoralize an intact rear. Conversely, a victorious front, if it be withdrawn into reserve, will act as a moralizing tonic to every man behind it. If men are withdrawn into reserve with their tails well over their backs, all drooping tails in rear will assume a like attitude. To squeeze men like lemons, and then place them in reserve, is the act of a criminal lunatic.

From this brief survey of the value of reserve force as the foundation of concentration, it will be seen that it is impossible economically to allot frontages of attack without reference to reserves. In building up an offensive plan, directly security has been established, the next question to settle is the strength of the reserves. If the area of the decisive attack can be settled beforehand, this problem is not a difficult one, but if it cannot be, then every man who can be held in reserve should be held in reserve, and, unless the enemy is decidedly inferior to oneself, or unless surprise can be effected, if the reserve forces fall much below half the total forces, a commander should consider twice whether he will attack or not.

#### 4. CONCENTRATION AND STRATEGICAL DISTRIBUTION

To distribute troops strategically has nothing whatever to do with mobilizing them in certain areas, but in so placing them in the theatre of war that they simultaneously can maintain freedom of movement and compel the enemy to conform to the plan adopted.

The most certain way of influencing the enemy is to threaten his communications in such a manner that he is forced to fight on a front parallel in place of at right-angles to them. Sometimes (as was the case at the battle of Jena) it is possible so completely to out-manceuvre an enemy that he finds himself facing his base. In both cases the initial attack delivered is in nature a moral one. This is the true act of attrition which should precede the decisive attack. Its supreme value lies in the fact that the enemy is being demoralized by manœuvre in place of by attack, consequently the whole of the forces engaged may be held in reserve.

From this we see the extreme importance of the initial strategical distribution on concentration of force, and that the application of force does not necessarily mean physical force but moral force, and that the greater the moral pressure we use in war the less need be the physical force we concentrate for the decisive battle. Between these two forces there is a radical difference; for, whilst expenditure of physical force leads to a loss of endurance, the moral attack on an enemy, by forcing him to conform to our will, enhances in place of reduces the moral of our men. The moral attack has, therefore, this immense advantage, the more it succeeds the higher becomes our moral power. The maintenance of the initiative does not, therefore, lie so much in physically destroying the enemy as in reducing him to a moral wreck. The most potent form of concentration is, consequently, the strategical surprise.

#### 5. THE NATURE OF THE FORCE CONCENTRATED

Before concentration is arranged for it is as well to decide upon the nature of the force to be applied. Concentration, from the point of view of battle, has for centuries been based on the maxim of "superiority of *numbers* at the decisive point," because numbers were the co-efficient of weapons, each man normally being a one-weapon mounting. As a general rule, this maxim no longer holds good, and in its place must be substituted "superiority of weapons, means of protection, and movement." Men, in themselves, are an encumbrance on the battlefield, and the fewer we employ, without detracting from our weapon-power, the greater

will be our concentration of strength. If the area in which a decision is to be sought is held by hostile infantry, to concentrate masses of infantry against them, when we can concentrate tanks, is to violate this principle. If this area is, however, totally unsuited to tank action, as was the case in Flanders in August 1917, a violation will equally occur if we employ them. If the enemy's communications run through a defile, and we can attack these communications by aircraft, it is useless battering ourselves to pieces against the enemy's front. From these examples the point I wish to accentuate is that as conditions vary, so does the application of the principle of concentration differ. It demands selection of force as well as mass, and suitability of force as well as numbers. Like every other principle, it must be applied according to conditions; it cannot be applied by rule, and it cannot safely be applied unless the remaining principles assist in its application.

#### 6. THE POSITION OF THE FORCE CONCENTRATED

The first step in attaining tactical concentration is to deny freedom of movement to the enemy. This can be accomplished either by manœuvre, or by definitely halting him, or by forcing him to deploy, and, whilst he is deploying, to attack him. To effect a tactical concentration it is first necessary to hold and then to hit, for, if the enemy is not held, not only may he attack and so disjoint our concentration, but he may shift his position so that, when we do strike out, our blow is ineffective.

When the enemy cannot be held, then, if concentration is to be effected, it must take place outside his reach. Such concentrations have sometimes to be resorted to during retirements, and the prevailing mistake made, as history will again and again show, is that, whilst the front is retiring, reserves are created piecemeal in rear and pushed into the battle, and destroyed in detail. If the enemy cannot be held, then the distance between him and the position of concentration selected must be sufficient to give ample time for the concentration of the forces required. In August 1914 the British Expeditionary Force was concentrated too far forward, seeing that the German right wing was virtually unopposed. At the end of this same month the French Sixth Army should, from the start, have been assembled at Paris, and not at Amiens. In March 1918, when the British Forces were driven back from the St. Quentin area, attempts were made to reinforce the defeated troops. It would have been sounder, I think, if the defeated forces had been left to fend for themselves, and that, in place, every available man

had been concentrated well in rear, not to counter-attack, but to hold ; for, from a moving base, to hit a moving enemy is almost as difficult as to attempt to shoot partridges from the window of a railway carriage. The ideal conditions in which concentration can accentuate offensive power is when a stable base of operations has been established, and the enemy has been forced to halt and so conform to the will of his adversary.

7. MR. LANCHESTER'S " N-SQUARE LAW "

A short time back I stated that superiority of numbers at the decisive point was not necessarily an application of the principle of concentration, since it is by means of weapons and not numbers of men that effect is obtained. If by superiority of weapon-power we can economize men, equally can we concentrate force. In his book, *Aircraft in Warfare : the Dawn of the Fourth Arm*, Mr. Lanchester, the eminent engineer, has, from a mathematical standpoint, examined the principle of concentration, and has contrasted, on a weapon basis, the conditions of ancient and modern warfare as follows :

Taking, first, the ancient conditions where man is opposed to man . . . there will be about equal numbers killed of the forces engaged ; so that if 1,000 men meet 1,000 men, it is of little or no importance whether a " Blue " force of 1,000 men meet a " Red " force of 1,000 men in a single pitched battle, or whether the whole " Blue " force concentrates on 500 of the " Red " force, and, having annihilated them, turns its attention to the other half ; there will, presuming the " Reds " stand their ground to the last, be half of the " Blue " force wiped out in the annihilation of the " Red " force in the first battle, and the second battle will start on terms of equality, i.e. 500 " Blue " against 500 " Red."

Now let us take the modern conditions. If, again, we assume equal individual fighting value, and the combatants otherwise (as to cover, etc.) on terms of equality, each man will in a given time score, on an average, a certain number of hits that are effective ; consequently the number of men knocked out per unit time will be directly proportional to the numerical strength of the opposing force. Putting this in mathematical language, and employing symbol  $b$  to represent the numerical strength of the " Blue " force and  $r$  of the " Red," we have :

$$\frac{db}{dt} = - r \times c \dots\dots\dots (1)$$

and

$$\frac{dr}{dt} = - b \times k \dots\dots\dots (2)$$

in which  $t$  is time and  $c$  and  $k$  are constants ( $c = k$  if the fighting values of the individual units of the force are equal.)

A little later on Mr. Lanchester considers the efficiency of weapons, as follows :

Any difference in the efficiency of the weapons—for example, the accuracy or rapidity of rifle-fire—may be represented by a disparity in the constants  $c$  and  $k$  in equations (1) and (2). The case of the rifle or machine-gun is a simple example to take, inasmuch as comparative figures are easily obtained which may be said fairly to represent the fighting efficiency of the weapon. Now numerically equal forces will no longer be forces of equal strength ; they will only be of equal strength if, when in combat, their losses result in no change in their numerical proportion. Thus, if a “ Blue ” force initially 500 strong, using a magazine rifle, attack a “ Red ” force of 1,000, armed with a single breech-loader, and after a certain time the “ Blue ” are found to have lost 100 against 200 loss by the “ Red,” the proportions of the forces will have suffered no change, and they may be regarded (due to the superiority of the “ Blue ” arms) as being of equal strength.

If the condition of equality is given by writing  $M$  as representing the efficiency or value of an individual unit of the “ Blue ” force, and  $N$  the same for the “ Red,” we have :

Rate of reduction of “ Blue ” force :

$$\frac{db}{dt} = -Nr \times \text{constant} \dots\dots (3)$$

and “ Red ”

$$\frac{dr}{dt} = -Mb \times \text{constant} \dots\dots (4)$$

And for the condition of equality :

$$\frac{db}{b dt} = \frac{dr}{r dt}$$

or

$$\frac{-Nr}{b} = \frac{-Mb}{r}$$

or

$$Nr^2 = Mb^2 \dots\dots\dots (5)$$

In other words, the fighting strengths of the two forces are equal when the *square of the numerical strength multiplied by the fighting value of the individual units are equal.*

*The Outcome of the Investigation. The N-Square Law.* It is easy to show that this expression (5) may be interpreted more generally ; the *fighting strength* of a force may be broadly defined as proportional to the *square of its numerical strength multiplied by the fighting value of its individual units.* . . .

*A Numerical Example.* As an example of the above, let us assume an army of 50,000 giving battle in turn to two armies of 40,000 and

30,000 respectively, equally well armed ; then the strengths are equal, since  $(50,000)^2 = (40,000)^2 + (30,000)^2$ . If, on the other hand, the two smaller armies are given time to effect a junction, then the army of 50,000 will be overwhelmed, for the fighting strength of the opposing force, 70,000, is no longer equal, but is, in fact, nearly twice as great—namely, in the relation of 49 to 25. Superior *moral* or better tactics or a hundred and one other extraneous causes may intervene in practice to modify the issue, but this does not invalidate the mathematical statement.

*Example Involving Weapons of Different Effective Value.* Let us now take an example in which a difference in the fighting value of the unit is a factor. We will assume that, as a matter of experiment, one man employing a machine-gun can punish a target to the same extent in a given time as sixteen riflemen. What is the number of men armed with the machine-gun necessary to replace a battalion a thousand strong in the field? Taking the fighting value of a rifleman as unity, let  $n$  = the number required. The fighting strength of the battalion is  $(1,000)^2$ , or :

$$n = \sqrt{\frac{1,000,000}{16}} = \frac{1,000}{4} = 250$$

one or quarter the number of the opposing force.

### 8. THE VALUE OF THE "N-SQUARE LAW"

I have set down this long quotation with a purpose. Here is a noted scientist making use of mathematics to discover tactical truths. Mr. Lanchester fully realizes the weak points in his theory, so I must ask the reader, should he be inclined to criticize it, before doing so, to read his book. To myself, the main interest of the "n-square law" is that it enables us *in a certain extent* to arrive at the size of concentrations, and that, granted an equal *moral*, concentration of force is mainly to be sought for in weapon improvement.

For argument's sake, I will accept the statement that 250 machine-gunners possess the fighting power of 1,000 riflemen. How are we to proceed further? The answer is by thinking in the terms of the remaining two physical elements of war—movement and protection.

The machine-gun can only be fired from a stationary position. Suppose now that it be mounted on a cross-country tractor which will enable it to be moved and fired simultaneously, and that, consequently, its factor of efficiency is raised about three times—that is to say, from 16 to 49. Then the 250 men will be reduced to 143. Again, I will suppose that, by covering the tractor with bullet-proof armour plate, the factor of efficiency is increased from 49 to 400. Then we shall find that 50 men

equipped with tanks have an equivalent fighting power to 1,000 riflemen. I will now suppose that these 50 men represent the crews of 10 machines, each machine being equipped with 4 machine-guns, and that these machines are ranged in battle against 1,000 riflemen. Turning to the war, we find that, even with the crude British tanks then used, on April 24, 1918, 7 Whippet machines, each holding three men and equipped with three machine-guns, with ease defeated 1,200 to 2,000 riflemen and infantry machine-gunners. We must, therefore, modify our factor of efficiency. I will assume that approximately half the 21 men are sufficient, then we obtain  $\frac{1,000}{x} = 10$ , therefore  $x = 100$ ; therefore, in place of 400, the factor of efficiency is 10,000. With a tank moving at 20 miles an hour, in place of eight, it should be possible to reduce the figure 10 to 5. Then we get a factor of efficiency of 40,000, which brings us up to present-day possibilities.

What have we done? By improving weapons, movement, and protection, we have enabled 5 men, equipped with machine-guns, to equal the fighting power of 1,000 armed with the rifle. Will it be contended that an equivalent reduction in man-power could have been effected by some new process of moral training? No! The critic who bases everything on *moral* will not stick to his guns. He will, in place, abandon them in the face of the enemy, and assert that the above is not a fair example; that rifles are not the only weapons the tank will meet; that it will have to reckon with field-guns, and that the Great War proved that a single field-gun could knock out a whole company of tanks. It is, therefore, after all, a weapon which is going to beat the tank and not a man's heart. That the man who uses this gun must have the inclination to fire it and possess some skill in its manipulation goes without saying, and the higher his *moral* is the better will it be for the firer. Nevertheless, the fact remains true that it is weapons which do the work, and that it is this work which safeguards *moral*, which is always a doubtful quality, whilst the power of weapons is far more certain. In fact, he who possesses the superior weapon possesses the highest chance of victory.<sup>1</sup>

<sup>1</sup> In naval warfare the 99 per cent. weapon factor has long been realized. During the Great War there is only one recorded instance of a naval action in which a fleet of inferior weapon-power wilfully sought to engage one of superior force, namely Admiral Cradock's attack on von Spee's squadron at Coronel. Cradock possessed a slight superiority in speed, but a marked inferiority in gun-power. If ever *moral* had a chance of making good deficiency in weapon superiority, it was so in this action. Cradock's pluck is beyond criticism, nevertheless the Good Hope and Monmouth went to the bottom, not through an act of God, but through an act of mathematical certainty, and *von Spee did not lose one man.*

Mr. Lanchester's "n-square law" must be accepted as a most valuable idea possessed of a truth. We cannot slavishly follow it. My reason for having discussed it in detail is that, whilst formerly the application of the principle of concentration aimed at massing numbers of men, it should now aim at accentuating weapon-power. I will therefore end this section with another quotation, also big with truth. In *Sartor Resartus* Thomas Carlyle writes :

Such I hold to be the genuine use of gun powder ; that it makes all men alike tall. Nay, if thou be cooler, cleverer than I, if thou have more *mind*, though all but no *body* whatever, then canst thou kill me first, and art the taller. Hereby at last is the Goliath powerless, and the David resistless ; savage animalism is nothing, inventive spiritualism is all.

Thus mind triumphs over matter, and the body is its tool.

#### 9. THE PRINCIPLE OF SURPRISE

Concentration of force is first an act of will, and, secondly, a massing of means, and I have just shown the enormous importance of means in the application of this principle. To-day one modern cruiser could sink the whole of Napoleon's fleet at Trafalgar in an hour or two with no loss or inconvenience to itself, and, though we cannot hope to attain such weapon superiority over an enemy, we should realize that it is through concentration of thought this superiority is attained, and that the nation which does attain this superiority, irrespective of its man-power, can proportionately increase its force on the battlefield.

It must not, however, be overlooked that weapons, however powerful they may be, are useless unless the will can direct them. This direction depends on knowledge, on skill, and on sentiment, consequently these three qualities must exist in an army if the full power of the weapons is to be developed. Sentiment must be such that knowledge and skill can operate. The ultimate expenditure of force, as I have shown, depends on the determination of the soldier. If this determination is reduced to zero, then his power to wield weapons with skill and knowledge becomes negligible ; in fact, his power to expend his force economically is reduced to vanishing-point. The control of all the conditions of war which so influence a man's will that it loses its determination to exert pressure and resistance is the province of the principle of surprise.

In war, as I have explained, force can seldom, if ever, be

directed in a straight line, and that, consequently, from the physical aspect of concentration, the side which can exert superior pressure against inferior resistance is the side which is more likely to succeed. In the moral aspect, however, if resistance be deprived of its endurance by the application of surprise, then frequently a physically inferior force will be able to overthrow a physically superior one, because its unexpected action will have created a line of moral least resistance.

The subject of surprise is an immense one, and one which influences all forms and modes of war. It is one which is nearly always lost sight of during peace-time, because danger and fear are more often than not abstract quantities; but in war-time they manifest, and with them manifests surprise—the demoralizing principle. Clausewitz must have recognized this when he wrote: “Has not then the French Revolution fallen upon us in the midst of the fancied security of our old system of war, and driven us from Chalons to Moscow? And did not Frederick the Great in like manner surprise the Austrians reposing in their ancient habits of war, and make their monarchy tremble? Woe to the Cabinet which, with a shilly-shally policy, and a routine-ridden military system, meets with an adversary who, like the rude element, knows no other law than that of his intrinsic force. Every deficiency in energy and exertion is then a weight in the scales in favour of the enemy; it is not so easy then to change from the fencing posture into that of an athlete, and a slight blow is often sufficient to knock down the whole.”<sup>1</sup>

In war surprise is omnipresent; wherever man is there lurks the possibility of surprise, yet it is intangible and all but omnipotent. From this it will be understood that in the few pages at my disposal I cannot do more than touch the fringe of this all-pervading principle, and because of this I must urge the student to do more than merely read my words. He, if he wishes to understand war, must examine the nature of surprise in its thousand and one forms as it pursues its restless course through history.

Without surprise in some form or another it is not possible to maintain the law of economy of force. Even if I have one hundred men and am opposed by one man, I must apply this principle, for if, in killing or capturing this one man, I lose two or three men, when, in the circumstances, by applying surprise I might have sustained no loss at all, then I shall have violated economy of force.

Surprise should be regarded as the soul of every operation. It is the secret of victory and the key to success. It originates

<sup>1</sup> *On War*, vol. iii., pp. 229, 230.

in the mind of man and accentuates the power of his will ; it is the weapon of intelligence, this harnessing of fear. As direction springs from the mind, so does surprise spring from the sentiments. It has power over *moral*, and can raise or depress it instantaneously, accordingly as it is used by us or against us. It can destroy *moral* as rapidly as with a pin I can destroy a soap-bubble ; and, above all, it is a double-edged tool, and an exceedingly dangerous one in clumsy hands, for few disasters are greater than the surprisal of a would-be surpriser. Panic is never more latent than when one side imagines it has victory by the throat.

#### 10. THE MEANS OF SURPRISE

The object of surprise is to attack the will of the enemy by accentuating fear, for, if a man is reduced to such a state of fear that he can do nothing save think of protection, he is at our mercy, for his moral endurance has ceased to dominate him. A man whose mind is dominated by fear is a man in panic, consequently the ultimate end of surprise is to reduce our enemy to a condition of panic in which his moral is totally replaced by his instinct of self-preservation in its most irrational form.

The conditions of surprise are innumerable, but the means may be classed in three great categories, namely the mental, moral, and physical. Thus :

- (i.) Surprise effected by superior direction.
- (ii.) Surprise effected by superior determination.
- (iii.) Surprise effected by superior mobility.

The first is based on distribution of force, and is expressed through concentration of force ; the second on moral endurance, and is expressed through power to demoralize ; and the third is based on security, and is expressed through offensive action.

The means of surprise are those which spring from the ability of the general, the courage of his men, and the perfection of their weapons.

Though none of these are constant, for their values are always changing, by far the most difficult to gauge is the first—it is the dark horse of the battlefield. Mental ability is not so much a natural gift, save in the case of very few, as the product of scientific study—a close reasoning out of the values of conditions and an intelligent application of the principles of war. Again, mental ability does not so much consist in inventing superior weapons, means of movement and protection, as in combining

the existing means according to their true values. What are their values? It is here that mistakes are being persistently made. In 1870, because the *mitrailleuse* was mounted on a gun-carriage, the French employed it like a field-gun; in 1914, because the Vickers machine-gun fired .303 bullets, we employed it like a rifle. The machine-gun is neither a field-gun nor a rifle, for it is a machine-gun, and very different from both these other weapons. It has tactics of its own, and because, in 1914, all parties were hallucinated by rifles and field-guns, its value remained hidden, and the discovery of its value proved one of the most costly surprises of the war.

In 1914 all parties were surprised by fire-power. In a few weeks the tactics of forty years were divested of all semblance of utility; they might just as well have never been written; in fact, in many cases they proved disastrous deterrents to common sense action, for thousands of lives were lost in trying to apply them. The war opening with this colossal surprise, all sides were smitten down by a paralytic stroke, and the war grew rigidly static. From November 1914 on to the spring of 1918 all sides searched every nook and cranny of the art of war for the secret of surprise. Ultimately, from March 1918 onwards, one surprise followed another, and the object of the Allies—the defeat of the German armies—was gained through a series of surprises which palsied the will of the German nation and caused the foundations of the German armies to crumble and give way.

## II. TACTICAL AND STRATEGICAL SURPRISE

An appreciation of the true values of the physical means of war is, therefore, as we see, the foundations of surprise, which I will now consider in its tactical and strategical forms, concerning which Marshal Foch says:

“Whatever a thing may be,” writes Xenophon, “be it pleasant or terrible, the less it has been foreseen the more it pleases or frightens. This is seen nowhere better than in war, where *surprise* strikes with terror even those who are much the stronger party.”

The means of breaking the enemy's spirit, of proving to him that his cause is lost, is, then, surprise in the widest sense of that word.

Surprise bringing into the struggle something “unexpected and terrible” (Xenophon); “everything unexpected is of great effect” (Frederick). Surprise depriving the enemy of the possibility of reflection and therefore of discussion.

Here we have a novel instrument, and one capable of destructive power beyond all knowledge. However, one cannot obtain this at will; setting an ambush, attacking in reverse, are possible in a small

war, but impracticable in a great one ; it is necessary, therefore, to resort in case of great wars to bringing forth a danger which the enemy shall not have the time to parry or which he shall not be able to parry sufficiently. A destructive force must be able to appear which should be known, or seem to, the enemy to be superior to his own ; to this end, forces and thereby undisputable efforts must be concentrated on a point where the enemy is not able to *parry* instantly—that is, to answer by deploying an equal number of forces at the same time. Such will be our conclusion.<sup>1</sup>

It is quite true that an able commander will, whenever he can, attempt to bring forth a danger which the enemy is unable to parry ; it is also true that we can seldom hope to ambush an army ; but that in great wars armies cannot be attached in reverse is not borne out by history. At Jena, Napoleon attacked the Prussians in reverse, and in 1914, had von Moltke shown normal aptitude, the whole of the five French armies would have been attacked in reverse and, in all probability, have been swept into Switzerland. The reverse, or rear, attack is, in fact, the supreme surprise operation not only of small wars, but of great. I will now examine this form of surprise.

The military will of an army is centred in its command—its brain. This will is based on the national will behind it, and is protected by the will of the soldiers engaged. We are confronted here by a very interesting problem, which I will explain diagrammatically.

Combatants
Reserves
Command
Government
Nation

The diagram may be looked upon as a tower, the Nation is its ground floor, and the Government, Command, Reserves, and Combatants its four storeys. If the tower is to be demolished, the speediest way is to blow up its foundations. If this is impossible, then to blow up its first storey ; if impossible, its second ; if impossible, its third ; and, if the fourth storey can only be attacked, then the process of demolition becomes very slow. In war the last method has been the normal method. I

<sup>1</sup> *The Principles of War*, pp. 291-92.

believe that the power of aircraft will render it less normal,, but I will here exclude this possibility, and only consider the influence of demoralization on the three top storeys.

The combatants are in movement, they are pushing forward or being pushed back. They are faced by the reality of battle and know what is happening. The kaleidoscope of events is changing so rapidly that time is normally insufficient for their thoughts to concentrate for long on fear.

From those actually engaged, turn to the reserves. They are halted. They are surrounded by images and not by actualities. They know that a battle is being waged in front of them, but they are out of touch with its reality. Time for brooding is ample ; bad news travels swiftly, and fear is contagious. Curious as it may seem, though they are not fighting, they are frequently more susceptible to demoralization than those engaged. The uncertainty of the unknown is sapping their *moral*. They are like men looking into a convex mirror, the further back they withdraw their heads the more distorted becomes the reflection, until ultimately nothing is seen clearly. What does this teach us? It teaches us that the rear demoralizes the front ; that to surprise the front we must attack the rear. First the rear of the front, secondly the rear of the reserves, thirdly the rear of the command, and so on back to the initial will of the people who desire victory and dread defeat.

As physical weapons hit fronts, so do moral weapons hit backs, and the most potent of moral "weapons" is surprise. The interplay between these two weapons forms the backbone of the attack. In the normal physical attack the decisive point is a physically weak point—a point which can be easily attacked and which it is difficult for the enemy to protect or to reinforce by means of his reserves. As the lack of reserves is the normal condition which constitutes physical weakness, physically weak points are generally those which are distant from the reserves. In the moral attack—that is, an attack in which brute force is replaced by surprise—this condition does not necessarily hold good, for frequently the morally weak point is one which is closely supported by reserves.

The reason for this is that, if the enemy's front can be rapidly disorganised by a surprise attack, its shattered fragments, like the jagged pieces of some immense shell, will strike the reserves and morally tear them to pieces.

It may be thought that there is some "catch" in the logic of this argument, that this is not really so ; but history will prove that it is so. In the files of the Grecian phalanx the bravest man was in front and the next bravest in rear ; in the Roman

legion the *triaris*—the veteran troops—were in reserve ; in the army of Napoleon the Old Guard was in reserve. If in war we are faced by an enemy who places his best troops in front and holds his worst in reserve, the moral point of attack will be opposite his reserves ; they will constitute a human explosive which at any moment may detonate and blow him to pieces. If, however, he holds his best troops in reserve, we must be on our guard where we attack him. If these troops be veterans, we must be doubly on our guard, for they know what the reality of war is ; if they be young and inexperienced, we may accept risks and act with audacity. Here, then, is our ultimate conclusion ; the decisive point is the normally most sensitive point and not the numerically weakest point, and the weapon of the moral attack is surprise.

The point, I think, that Marshal Foch overlooked when he wrote his book was the extreme importance of strategical surprise, which renders tactical surprise on the grand scale possible. Clausewitz was much more certain on this point. He says : “ In tactics, a surprise seldom rises to the level of a great victory, while in strategy it often finishes the war at one stroke ”<sup>1</sup> ; which is very true ; and it was such a surprise which very nearly took effect in 1914.

Whilst tactically we attempt to hit at moral objectives, strategically we try to manœuvre towards and into “ moral ” spaces, and normally these spaces are those which include the communications of the enemy’s forces to be attacked. Here we are confronted, not by the rear attack, but by the rear manœuvre which either culminates in battle or in a change of communications. In August 1914 the French in Lorraine tried to strike at the German communications north of Strasburg, and the Germans, meanwhile, by moving through Belgium, struck at the French communications between Lorraine and Paris. The first result was the change of the British communications from Havre to St. Nazaire, and the second the battle of the Marne. To the Allies the immediate object of this battle was to secure their communications, which had been surprised.

The chief means of strategical surprise are :

- (i.) Simplicity of movement.
- (ii.) Secrecy of movement.
- (iii.) Speed of movement.

Morally weak spaces can be created by many means, such as misleading the enemy, pandering to his stupidity, leaving unprotected enticing lines of advance, moving by unexpected lines of

<sup>1</sup> *On War*, vol. ii., p. 144.

approach, and threatening vital points without any intention of attacking them. When we study the campaigns of Napoleon we find innumerable cases of the strategical surprise. His Italian campaigns are full of such cases, and startling examples may be discovered in the Marengo and Jena campaigns. Hannibal was another master of the strategical surprise, and so, in a lesser degree, was Marlborough.

## 12. THE INFLUENCE OF SCIENTIFIC WEAPONS ON SURPRISE

The Great War of 1914-18 was remarkable in many ways—the size of the forces contending, the lack of able leaders, the stupendous fire-power utilized, the development of aircraft, and the general utilization of the petrol engine; but, beyond all these, scientific invention surpassed anything dreamt of in former wars. The Franco-Prussian War, the South African War, and the Russo-Japanese War were won with the weapons of the mobilization stores. In the last-mentioned war a few minor inventions were introduced, and the power of existing weapons improved.

In the Great War, partly due to its length, but mainly because it was fought by nations possessing immense scientific knowledge, invention followed invention, and many existing weapons were improved beyond recognition. So much so was this the case that, had the war lasted another two years, the equipment of 1914 would have been completely replaced, and an entirely new epoch of war would have opened, based mainly on the aeroplane and the cross-country tractor, with gas as the superior weapon.

During the war each new invention ushered in the possibility of surprise, but this possibility was seldom grasped, because no method existed whereby the soldier could discover, save by the slow process of trial and error, the tactical value of any new weapon. The principle of surprise was violated again and again through sheer ignorance. The means existed, but ability to understand these means was lacking. The higher command of all armies never grasped their scientific limitations, and for the following reasons: because they had been brought up in a school of war the doctrines and methods of which bore little resemblance to reality; because seniority carried with it a fictitious omniscience; and because totally ignorant men would again and again wave aside, with a gesture of pitiful sorrow, the opinions of the highest experts. In spite of this lack of power to grasp the values of things new, inventions played such a preponderating part during 1918 that two totally false points of view were established. The first was that the higher command

had shown consummate skill, and the second that in the face of new inventions skill is next to useless. If these erroneous opinions are allowed to persist, then one thing is certain, namely, that the next war will produce a series of surprisals unprecedented in history. All sides will surprise each other with their eyes wide open, and the greatest surprisals will be effected when they are least intended. For the historian it will be a war of much interest and perplexity—a war of flukes.

### 13. THE INFLUENCE OF TACTICAL ORGANIZATION ON SURPRISE

In my opinion both these points of view can be proved false—the first in that, had the higher commanders really shown ability in the use of inventions, they could not, immediately peace was declared, have reverted so rapidly to the 1914 organization and equipment; the second in that it is manifestly wrong to place present-day inventions in a separate category to those which preceded them. If in the past skill has been able to utilize weapons, in the future it will again be able to do so. There is, however, this possible difference: whilst in the past the mobilization equipment of civilized armies was generally known, in the future certain very important items may be unknown, and only become known on the battlefield. It is conceivable that a discovery may be made by one nation during peace-time which is so overwhelmingly powerful that no enemy unequipped with it could hope to conquer. If this be the case, then it points to the vital necessity of foreseeing the future under all possible shapes and forms, of liberally using hypotheses of victory, and by every means possible proving them false or true. Excepting this category, the bulk of inventions will be known; consequently, as heretofore, tactical skill in their use will play an important part. In the past this skill has manifested itself during war, because tactical organization was extremely simple. Then there were three simple arms—infantry, cavalry, and artillery—and three simple weapons—rifles, swords (or lances), and field-guns.

Tactical organization was based, therefore, on the following plan: whilst the guns protected the infantry, the infantry attacked the enemy's infantry, and when the enemy was demoralized the cavalry charged home and annihilated him. To-day we maintain this organization, but it is visibly out of date. Where to-day do the new inventions of 1918 fit in? They do not fit in, so they are appended to it. To take a simile. The Saxon with his battle-axe is equipped with the bow, equipped with the cross-bow, equipped with the arquebus, equipped with

the musket, equipped with the rifle, and finally with the Lewis-gun. He steps on to the battlefield a veritable museum. He cannot use his battle-axe because of the other "appendices." One moment he wants to use his axe and he falls over his rifle, the next moment he wants to use his Lewis-gun and he trips over his bow. He cannot combine their powers.

What I wish to point out here is that it is not the enemy who is surprising him; he is surprising himself, because he is not organized to do anything else. He is enmeshed in surprises, and is astonished each time he attempts to make use of one of his appended weapons.

The lesson to be learnt is that tactical organization is one of the main props of the principle of surprise. I have shown that the principle of direction is derived from the elements of the mind, and that this principle finds expression in the determination of the will of the commander. The principle of surprise accentuates or destroys determination. For the will to attain its end, its means of expression—the moral elements of war—must be organized—that is, set together in such a manner that the highest economy of force can be effected through the harmony of their joint values. If this harmony does not exist, how can originality of thought, which leads to surprise, accentuate the will? It cannot; it can only confuse it. A man who speaks ten foreign languages organizes his brain to work economically in the ten countries in which these languages are spoken. What does the modern soldier do? He learns one language and puts nine dictionaries into his haversack. He then steps on to the battlefield and, if the language he knows is not understood, he opens his dictionaries and misuses words, with surprising results—says *cochon* when he means *cocher*, and, if he is so fortunate as to beat his enemy, he presents himself with a first-class interpretership.

I have accentuated this relationship between organization and surprise because, if we examine past history, we shall find it has played such an obscurely decisive part. We equip ourselves with new weapons, but we fail to discover their values or the relationship between their respective values. We invent tactics on suppositions, and then we organize our forces to fit traditions, barrack-rooms, parade grounds, and certain round sums of money. Worse still, if we succeed in one war we imagine that to copy our success is the panacea against future defeat. What we must do, if we wish to prepare ourselves to apply the principle of surprise and to secure ourselves against its application, is to cease thinking in terms of infantry, cavalry, and guns, and to think in terms of the elements of war—to take each weapon

and extract its values, to take all these values and extract their relationships, and then finally, having evaluated our future enemy, to organize these relationships into a tactical whole—that is, an UNIT—which possesses the maximum offensive power, protective power, and moving power, because these powers when *combined* are *one power*—tactical power—and not three powers, or three collections of power, hung on the skeleton of a military organization which was found efficient in the days of von Moltke, or Wellington, or Sennacherib.

#### 14. THE SWORD AND SHIELD OF SURPRISE

The main causes of surprise are lack of foresight, loss in sensing the reality of war, lack in appreciating tactical values, and, above all, the strangling grip of tradition which is ever choking our intelligence.

To copy is not to originate, and originality of thought is the mental co-efficient of the principle of surprise, and, when determination to win is accentuated by this principle, *frequently an objective can be created by one side which is totally unrealized by the other*. Such a creation is what I call tactical forethought—seeing an action before it is fought. Foresight is the fruit of the scientific method, and it must not be confounded with imagination. Imagination presents to us a possibility, reason analyses it and stamps it with a value ; these two are the parents of foresight, which is nothing more than mentally standing on tiptoe.

This is the main application of this principle, whether it be used protectively or offensively. Whatever we will to do, we must foresee what is most likely to happen. There is always one supremely right thing which we should do, but it is usually hidden. We must discover it, and we shall never discover it as long as we remain slaves to the past and pour out our oblations before archaic idols.

The scientific method is the surest means of preparing for or against surprisals, as it enables us to arrive at true values. It is method which we require, a method based on judgment and not on dogma. To lay down a method of procedure is the matter of a moment, but to work out the results of such a method is the task of years, and to establish a common doctrine on these results may take several generations. If this be true, then we must make absolutely certain of existing values before we attempt to forecast future influences. If we do so, if we establish a scientific base of operation, then the results of our method will unfold themselves systematically, one result pointing the way to the next, and each rectifying the method itself.

In war it takes time to gain superiority in anything, and time is nearly always at a discount ; consequently we find, although minor surprisals may be accomplished by seizing opportunity, the possibility of effecting major surprises depends mainly on the forecasts and preparations which we have made during days of peace. The surest foundation of eventually being surprised is to suppose that the next war will be like the last war, and that consequently old means will accomplish new ends. The general who slavishly copies former battle tactics is more often than not surprised with his eyes wide open. He sees things coming, but, blinded by prejudice and hallucinated by tradition, he does not perceive their consequences, because he cannot appreciate their values. Even when routed again and again he cannot trace cause and effect ; he attributes his defeat to some unconnected incident, attempts to copy it, and is defeated again, and yet again.

On the battlefield itself a general is frequently surprised by his own stupidity, his lack of being able to appreciate conditions or apply to them the principles of war. This stupidity sometimes takes the acute form of completely misunderstanding human endurance. Not realizing what they can do, the troops are ordered to do something which they cannot do, and the result is chaos and loss of life. It is indeed a curious contemplation that, whilst a progressive and warlike nation will go to infinite trouble to drill its army to perfection and spare no cost in its equipment, no army has hitherto *scientifically* prepared itself to meet or to effect surprise. With a few elementary rules and a pinch of military jargon any intelligent man can become what is called a "strategist" or a "tactician." In the last war, like every other war before it, every other man considered himself a military authority, and, in fact, he was one, and will continue to remain one as long as the alchemical epoch of war endures. In no other science could such an outlook exist. In biology, chemistry, mathematics, mechanics, and astronomy the expert stands apart from the amateur and the ignorant, and why? Because he has accumulated knowledge scientifically, and they have only gleaned bits here and there. As long as we remain amateurs we shall be surprised, sometimes by the substance of the enemy, but more often by the shadows of our ignorance.

### 15. THE PRINCIPLE OF OFFENSIVE ACTION

I now come to the third principle of pressure—the principle of offensive action—a principle which has been so thoroughly misunderstood since the Prussian System of war began to dominate military thought ; for, according to this system, the deciding

force is not the intelligence of the general, but the brute force of his men. The result of this system has been that during the last seventy years, even more so than the years which preceded its acceptance, warfare has become thoroughly brutalized.

The object of the offensive is not to kill, wound, and capture, but to establish a condition which will permit of policy taking effect. But, as Clausewitz says: "Activity in war is movement in a resistant medium,"<sup>1</sup> consequently this condition cannot be established until resistance is overcome, and the overcoming of resistance demands destruction of hostile force, for "the essence of the attack is movement,"<sup>2</sup> and until this resistance is removed freedom of movement is not possible, and unless movement is free the will of the general must remain shackled. Further, Clausewitz writes: "Activity in war is never directed solely against matter; it is always at the same time directed against the intelligent force which gives life to the matter, and to separate the two from each other is impossible."<sup>3</sup> In the conception of victory he finds "three elements," namely:

- (i.) The greater loss of the enemy in physical power.
- (ii.) The moral power.
- (iii.) His open avowal of this by the relinquishment of his intentions.<sup>4</sup>

The third element is, as we see, loss in mental power.

The first of these losses is accomplished by means of physical force, and the second by that of the moral attack. The question now arises, Which of these two means is the most economical? For the least economical will violate the law of economy of force. From what I have said about surprise, the answer undoubtedly is that in expenditure of force the moral attack is undoubtedly more economical than the physical attack, therefore the true object of the attack is to strike at the enemy's determination to continue to resist, for when his determination is broken his direction ceases to control and he is compelled to relinquish his intention. The aim of the principle of offensive action is, therefore, to compel the enemy to accept our will with the least expenditure of force. The offensive is, consequently, not merely a brutal act, but largely an intelligent act.

## 16. THE DIRECTION OF THE OFFENSIVE

The offensive is a mental, moral, and physical act. The "will to win" is the driving force, the "power to endure" the staying force, and the "ability to kill and to terrify" the deciding

<sup>1</sup> *On War*, vol. i., p. 79.

<sup>2</sup> *Ibid.*, vol. i., p. 101.

<sup>3</sup> *Ibid.*, vol. ii., p. 9.

<sup>4</sup> *Ibid.*, vol. i., p. 250.

force. In other words, the offensive is the application of will-power by moral and physical means. If any one of these three factors be deficient, the remaining two are useless. The moral is not to the physical as three to one, neither is the physical to the mechanical as one to three, for each in itself is useless without the other two, and to juggle in the proportions of essential qualities is of little help.

The object of the offensive is to destroy the enemy's strength, which is centred in his will to command, and which finds expression in the organization of his forces and endurance in the *moral* of his men. Organization enables the will to express its intention rapidly and without friction, to concentrate the means it uses, and to amplify their power. Organization is, in fact, the medium of command ; further, it endows *moral* with solidarity by rendering unity of action possible.

To apply the principle of offensive action is to break down this unity by disorganizing the enemy, which may be accomplished by attacking the physical or moral foundations of his army. In the first case, the destruction of order is brought about by the application of brute force, and, in the second, by fear and terror, leading to panic. The second means are incomparably more economical than the first. In the first case, if we kill a man the dead man cannot in his turn kill one of his fellows, but even when dead he can demoralize him by bearing witness to the power possessed by the enemy to inflict death. If the dead be removed from the living, this demoralizing influence to a great extent ceases. In the second case, if we terrify a man he becomes a mobile demoralizing agent, and if we terrify a number of men the probability is that they will seek relief from terror by quitting the field of action, and, as their line of retirement will normally lead them towards the troops in rear, a panic may result ; for, as I explained when I examined the principle of surprise, the *moral* of the reserves is frequently in an unstable condition.

In the past, on account of the restricted range of weapons, it was only possible to strike at the rear of an army by penetrating its front or by manœuvring round its flanks, for all offensive action took place on a plane surface. With the increase of gun-range, by degrees it became possible simultaneously to attack the rear and front of an army from a static position. To-day the aeroplane has rendered this position dynamic, and has given such range to the rear attack that it is possible to picture the whole of a reserve army being annihilated whilst the forces in front of it are not even engaged. I do not intend to pursue this argument, and I only mention it in order to accentuate the fact

that, whilst the application of the principle of offensive action was limited by the conditions inherent in two-dimensional warfare, to-day the possibility of adding a third dimension, though it has in no way altered the principle, has vastly extended its application. As the powers of aircraft grow the whole of our military organization will have to be recast, for in a two-dimensional organization it will be next to impossible for the will of a commander to find expression if he is opposed by a third-dimensional weapon. The solution to this problem does not concern us here, but it may not be out of place to mention that it will not be discovered by appending aircraft to land forces—infantry, artillery, etc.—but, in place, by examining all existing means—aeroplanes, infantry, artillery, etc.—from the point of view of the elements of war, extracting their values, discovering their relationships, and then creating an organization through which the will of the commander can find its highest expression in their use. What the commander of the future must aim at is the accomplishment of the offensive through mental paralysis as well as through physical destruction. He must understand the relationship between the power of weapons and the endurance of *moral*, and organize his forces on this relationship in place of on the various types of men who manipulate weapons.

#### 17. THE RELATIONSHIP OF THE OFFENSIVE AND OBJECTIVE

Without mental activity we can accomplish nothing, and from mental activity arises physical action which, when directed against opposition with the intention of overcoming it, is in war called the offensive. In order to conform to the law of economy of force it may be accepted as an axiom that offensive power can never be too strong. Strength does not lie, however, in offensive action alone, but rather in protected offensive action—that is, action springing from a sound and secure foundation. If the attacker cannot be attacked, complete freedom of action is at his command, and, though this ideal can seldom be reached, the nearer we approach it the more powerful will become our offensive. The principle which governs the relationship between offensive action and security is that of distribution of force. The correct application of this principle enables us first to distribute force so that a secure base of operations is established from which offensive action can operate, and, secondly, it enables us to protect this offensive action itself as it runs its course.

Once this distribution is made, the success of offensive action is governed to a great extent by the choice of objective and by

the conditions which hedge it round, conditions which will assist or resist the attacker. A general will seldom win without attacking, and he will seldom attack correctly unless he has chosen his objective with reference to the principles of war, and unless his attack is based on these principles. Imagination is a great detective, but imagination which is not based upon the sound foundations of reason is at best but a capricious leader. Even genius itself, unless it be stiffened by powerful weapons, a high *moral*, discipline, and training, can only be likened to a marksman armed with a blunderbuss—ability wasted through insufficiency of means. Conversely, an efficient army led by an antiquated soldier may be compared to a machine-gun in the hands of an arbalister. Will the objective that we have selected enable us to apply the principle of offensive action? If it will not, then the objective must be discarded, for the offensive in war is the surest road to success. If it will, then in which direction should the offensive be made? The answer to this question does not only depend on conditions, which should be looked upon as the correctors of all movements, but on power to apply surprise. An objective which cannot be attacked in daylight may frequently be attacked and surprised under cover of darkness. Again, the most apparent line of approach is not necessarily the line of least resistance.

## 18. THE ANATOMY OF OFFENSIVE ACTION

In chapter vii. I stated that in battle confidence depended on certain psychological factors. These I will now amplify and examine more fully, for the psychological base of the offensive is the determination of the attackers. As the fighter is urged forward by his will, the attainment of the objective must demand of his will not more than his will can accomplish. The first characteristic of what I will call "the compound of secure movement" is, therefore, *limitation of the objective*. The objective must, so to speak, lie within a circle the radius of which is the maximum will-power of the man. It must also lie within another circle the radius of which is *moral ability to endure*, and yet a third—*physical ability to accomplish*. These two form the second and third characteristics in "the compound of secure movement." From these characteristics we can extract a further series. Will is charged like an accumulator by encouragement, which is fostered by a feeling of superiority begotten by continuity of policy (maintenance of the object), depth of formation, and superiority of weapons. The fourth characteristic may, therefore,

be denoted as *stimulus of success*. This enthusiasm, which is always of a volatile nature, requires protection, and not only protection, but an uninterrupted flow; the fifth and sixth characteristics are, therefore, *security of movement* and *continuity of action*.

As human nature, on account of the exhaustion and reaction which always follows strenuous work, demands at least temporary *immunity from danger*, this immunity becomes the seventh characteristic. When once a body of men has become exhausted, offensive action must be fortified—that is, it must be continued by fresh troops. The mere act of seeing fresh troops advancing beyond them, and so automatically protecting them, will, by securing their bodies from danger, refresh their minds. This brings us to our eighth characteristic—the *progressive base of operations*.

Whether an offensive be carried out over open field land or against a strongly fortified position, its foundations are to be sought in the base of operations from which the attack is launched. In the past this base has been considered as the original starting-line, and, if battles can be won in a single onslaught, this assumption is correct. As this is seldom the case, and as battles are normally won by relays of attacks, each echelon must start from a secure base; consequently there must be a base of operations to each objective, requiring a fresh echelon of troops. Each echelon of troops must be sufficiently self-contained, not only to be in a position to capture an objective, but to hold it once it is captured, and so form a base of operations for the echelon following it. Further, each echelon must be protected by the one in front of it as well as by those behind it and on its flanks, and, as the first echelon cannot be so protected, and the last is often similarly situated, it is essential that the leading troops and those which will form the ultimate battle-front should belong to a *corps d'élite*, the former setting the pace, the latter clinching the argument.

## 19. THE STRATEGICAL OFFENSIVE

There are three main categories of offensive action: the ethical (moral), economic, and military attacks. All have frequently been used, and especially so during the period of mediæval warfare. Then we find the Pope using interdict and excommunication as weapons, and captured towns being handed over to the soldiery, not only to satisfy their lust and greed, but to terrorize whole districts. In recent years the moral attack on the nation itself has fallen into abeyance, and rules have

been devised to restrict economic injury, but in the last great war all these restrictions were cast aside and all categories became active.

We may, consequently, expect that this fullness of war will continue, and that military attacks will be reduced in importance and take their place alongside the remaining categories. Be this as it may, I do not intend in this chapter to go outside military action.

There are two great classes of the offensive ; the first is based on secure movement, and the second on secure offensive power. The first, in the main, belongs to the strategical offensive, and the second to the tactical. The one may form the base of the other. Thus a tactical offensive may be delivered in order to hold an enemy or draw him out of an area, so that liberty of movement may be gained for strategical manœuvre ; or else a manœuvre may be made in order to threaten an enemy and force him to support the point threatened by withdrawing troops from an area in which it is intended to deliver a tactical blow. When these two types of offensive operations are attempted simultaneously they should be most closely related, one influencing and assisting the other, like the right and left hand punches of a boxer. Frequently a campaign is opened by a strategical offensive which culminates in a tactical operation. When this is the case, the object is either to draw the enemy into an area in which more profitable tactical action may be sought, or to draw an enemy away from his communications and then force him to fight for their security.

It is a mistake of the first order to believe that the seizing of the tactical initiative is of necessity the maintenance of the principle of offensive action. Though in many circumstances this is so, the initiative does not necessarily depend on attacking, but quite as much on manœuvring, until a situation is created where in a profitable attack may be driven home. To seize the initiative at the beginning of a campaign, unless the enemy be considerably weaker than oneself, often means that, before the campaign is a few weeks old, the initiative will pass to the enemy, because the conditions which surround the initial stages of a campaign are normally most difficult to gauge. If the initiative has to be seized, as was the case with Germany in 1914, then the only safe method of procedure is to maintain a large reserve in hand, so that initial mistakes may be rectified. The power to maintain initiative depends in most cases on the holding of strong reserves in hand rather than in attempting overwhelming attacks. I have already dealt with this subject under the principle of concentration.

## 20. THE TACTICAL OFFENSIVE

The tactical offensive may roughly be divided into two classes. The first is governed by liberty of movement, and the second by restriction of movement.

Attacks based on liberty of movement may be divided into direct attacks and delaying attacks, and normally these are combined. Thus, in a direct attack our object is to march on the enemy and defeat him wherever he is; while in a delaying attack we march on him to halt him, to restrict his movement, so that the direct attack may take place on a selected battlefield. Generally speaking, the principle of offensive action is applied by first delaying the enemy—that is, restricting his power of movement—and, secondly, by pinning him down or fixing him—that is, by forcing him to assume a protective attitude—and, thirdly, by attacking him in superior force at a physically or morally weak point.

In order to restrict the advance of the enemy in a certain direction we must either directly bar his progress or we must force him to halt or change direction by threatening one or both of his flanks, or, better still, his rear. Or, again, if the hostile army in question is operating with another army, by attacking this other army we may force the first to withdraw. It will be seen, even from these few remarks, that it is not possible to lay down definite rules of attack, because it would be the exception for circumstances to admit of rules being applied. Each campaign and each battle requires a method of its own, but this method is governed by the principle of offensive action, which requires that the attack be delivered from a secure base, and be directed against a weak point, and protected until this point is pierced or shattered. The unlimited offensive—that is, an *offensive à outrance*—has nothing whatever to do with scientific warfare. Sometimes it may succeed by overwhelming a terrified antagonist, but if the enemy is alert and courageous it nearly always fails through premature exhaustion. Seldom will it be possible to march straight towards the enemy and defeat him, consequently many acts may have to be played before the curtain of victory is finally rung down. In scientific warfare each act must constitute a distinct and profitable step towards the transformation scene of peace. If this be not done, then an infringement of the law of economy of force will take place. This must be guarded against, for each blow must form a definite link in an offensive chain of blows, in which moves, as in chess, are seen ahead. Only when the enemy's endurance is exhausted, when his organization is shattered and his *moral* is verging on

freezing-point, is an *offensive à outrance* justified in the form of a relentless pursuit, which is not so much an act of scientific warfare as of pure brute force—of courage, audacity, and endurance.

Attacks based on restricted movement are, more frequently than not, parallel actions of attrition. Here, again, the principle of offensive action can be incorrectly applied. We violate this principle and the principle of endurance if, possessing more men than brains, our object is simply to kill as many of the enemy as we can, regardless of cost. A private soldier thinks in terms of killing men, but a general should think in terms of destroying or paralyzing armies. "Push of pikes" is a simple game compared to defeating an army, which requires an acuter intellect than that of a lusty halbardier.

In the last great war so many battles of attrition were fought that it is, I think, worth while examining this form of attack. A study of Napoleon's tactics shows clearly that when he was compelled to deliver a frontal attack, before attempting to break his enemy's front he first drew in the hostile reserves and disorganized them, his aim being to avoid any risk of being taken at a disadvantage. Once this was accomplished (and he also aimed at it in his battles of envelopment) no further opposition was to be expected, consequently a pursuit could be carried out, a pursuit being, more often than not, initiated by troops disorganized by victory against troops disorganized by defeat.

To turn to two examples in the Great War. Before the third battle of Ypres had begun, we had, through offensive action, forced the enemy to draw largely on his reserves. This, judged by the Napoleonic standard, was correct. Where we failed was that, once we had drawn these reserves in, we had no Old Guard at hand to smash them. At the battle of Cambrai we struck with our Old Guard (tanks) before the German reserves were on the battlefield. It was a blow in the air, and the result was that we crashed through the enemy's front, and then, when the enemy's organized reserves were brought up, having no Old Guard to meet them, the tactical advantage was theirs and not ours—we were repulsed.

Tactical success in war is generally gained by pitting an organized force against a disorganized one. This, at least, is one of the secrets of Napoleon's success. At Ypres we had not sufficient means to disorganize the enemy; at Cambrai the enemy did not offer us the opportunity of disorganizing him; both battles were, in my opinion, conceived on fundamentally unsound tactical premises. What we now want to aim at is a combination of the above two ideas:

- (i.) To force the enemy to mass his reserves in a given area.
- (ii.) To disintegrate these reserves before we attempt to annihilate the enemy.

This done, pursuit—that is, the tactical act of annihilation—becomes possible. Pursuit produces the dividend of battle.

The more reserves we can force the enemy to mass, as long as we can disorganize them, the greater will be the tactical interest on our outlay. This is the crucial problem of the offensive. This is why Napoleon said: “There are many good generals in Europe, but they see too many things at once. I seek the enemy’s masses in order to annihilate them.” In applying the principle of offensive action we must not be misled into seeking merely for a weak point, but for a vulnerable point at which we may attack the enemy’s vitals. The difference between guerilla warfare and *la grande guerre* is that, whilst in the former we strike at packets of men, or individuals, in the latter we strike at organized forces under a central command. Do not let us delude ourselves into supposing that because the enemy’s reserves are not at hand it is the time to attack. It may be the time to attack, if with those reserves the probabilities are that he will defeat us; but, if otherwise, it may be the very worst time to do so. “*Qui ne risque rien n’attrape rien*” was a favourite saying of Napoleon’s. The mainspring of the principle of offensive action is audacity—that is, exalted determination to win.

## 21. THE OBJECT OF THE OFFENSIVE

In chapter viii. I defined the grand tactical object of battle as being “the destruction of the enemy’s military strength as represented by his command and organization.” Though this object remains stable, the tactical objectives vary with conditions and the means of action at the disposal of the general.

In the past these tactical objectives have been gained by destroying the enemy’s field armies; but, as I have explained, the potential strength of a body of men depends on the maintenance of its organization. If this organization is destroyed we have destroyed its strength, and so have accomplished our object.

There are two ways of destroying an organization:

- (i.) By wearing it down (dissipating it)
- (ii.) By rendering it inoperative (unhinging it).

In war, the first comprises the killing, wounding, capturing, and disarming of the enemy's soldiers (body warfare); the second, the rendering inoperative of his power of command (brain warfare). Taking a single man as an example, the first method may be compared to a succession of slight wounds which will eventually cause him to bleed to death, and the second to a shot through the head.

The brains of an army are its staff—army, corps, and divisional headquarters; could we suddenly remove these from an extensive sector of the enemy's front the total collapse of the fighting personnel would be but a matter of hours, even if only slight pressure is exerted against it. Suppose, now, that no pressure is exerted, but that, in addition to the shot through the brain, a second shot is fired through the enemy's stomach—that is, his supply system behind his protective front; then his men will either starve to death or disperse to live. The fact I wish to accentuate here is that, as our present theory of offensive action is based on the idea of destroying personnel, new means of war, so I am convinced, will force us to substitute a theory based on the idea of destroying command—not after the enemy's personnel has been disorganized, but, when it is possible, before it has been attacked,<sup>1</sup> so that it may be found in a state of disorganization when attacked. I am convinced that this will take place, because in this form of attack I see the highest application of the principle of surprise—surprise by novelty of action—or the impossibility of counter-action even when the unexpected has become the commonplace.

Novelty of action in its turn demands novelty of means. The means are movement, weapons, and protection; consequently, if in the attack military force is to be economized, these means must be superior to those of the enemy. Though it is through mind that the principle of offensive action is applied, its means of expression are movement, weapons, and protection, and, if these means be obsolete, though the principle does not change its application may become impossible. If, on the other hand, these means be vastly superior to the enemy's, then an intelligent application of this principle may produce immediate and overwhelming success.

<sup>1</sup> We are apt to despise the Bolshevik armies and military operations, but we have much to learn from them, for their leaders are as unshackled by rules, regulations, and traditional methods of war as were the Revolutionary generals of 1792-97. Before a physical attack was launched on Kolchak and Denekin the areas occupied by these generals were morally attacked by propaganda. Their base of operations was thus undermined, and their power of command shaken severely, before the general attack was launched.

## CHAPTER XIV

### THE PRINCIPLES OF RESISTANCE

By restless undulation ; even the oak  
Thrives by the rude concussion of the storm.

—COWPER.

#### I. THE PRINCIPLE OF DISTRIBUTION

THE principles of resistance form the base of the principles of pressure, and the relationship between them is expressed by the principles of control which regulate the expenditure of force ; consequently, if force is to be expended economically expenditure will depend on the correctness of our resistance, which is governed by the principles of distribution, endurance, and security.

In war-time endurance is immediately affected by danger, and, fear being aroused, the natural inclination of the soldier is to secure himself against it. This desire to seek protection reacts on the determination of the commander, and frequently compels him to distribute his troops in such a manner that pressure cannot be exerted to the full.

In peace-time danger is absent, consequently soldiership is endowed with a pseudo-courage which leads to an unreal application of the principle of distribution of force. I shall revert to this subject when I examine the principles of endurance and security, but I mention it here because, when danger is absent, nothing appears easier than to distribute our forces correctly, whilst in fact, on account of this absence, it is a most difficult problem. In brief, the problem of distribution is as follows :

We first decide on our object, whether it be the winning of a war or the capture of a sentry-post. To gain this objective demands an expenditure of mental force directed against an enemy probably as strong willed as ourselves. We know from the study of human nature that, if we can unhinge the enemy's *moral*, we shall weaken his fighting power, consequently we seek how to surprise him. Our projected direction now becomes coloured by this intention, namely to take him at a disadvantage. If we can surprise our enemy we shall economize our fighting power, and particularly our *moral*. Surprise is, therefore, of

immense economic value ; consequently, if force is to be distributed correctly, our distribution must not only aim at effecting surprise, but of countering it by endurance. The distribution of force is firstly a problem of *moral*.

Next we secure ourselves against attack, and, by applying the principle of security, we establish a solid base to work from. Our maximum security will be attained when the enemy is defeated ; our maximum effort must, consequently, be directed towards concentrated offensive action, and the less material we use up in building our foundations the more we shall have in hand for the superstructure. Here, then, are two problems. Out of a given force, what proportion of this force should we use for the foundation of the operation we contemplate, and what portion for the operation itself ? The answer to these two questions is arrived at by applying the principle of distribution in accordance with the conditions of war.

## 2. THE DEPENDENCE OF DISTRIBUTION ON CONDITIONS

Of all the principles of war, the principle of distribution of force is the most difficult to apply, because of its close dependence on the ever-changing conditions of war. Economy does not mean storing up, but expending wisely, and expenditure demands distribution, since conditions are always changing. Our total force is calculable in any set of circumstances, if the nature of these circumstances is known. But they seldom are known, and they are perpetually changing ; nevertheless, the side which can evaluate the conditions of war the more correctly is the side which can apply this principle more fully. Certain conditions surround us as to the value of which there should be little doubt, and one of the most important of these is the *moral* of our men. To economize the moral energy of his men a commander must not only be in spirit one of them, but he must ever have his fingers on the pulse of the fighters. What they feel he must feel, and what they think he must think. But, whilst they sense fear, experience discomfort, and think in terms of victory or disaster, though he must understand what all these mean to the men themselves he must in no way be obsessed by them. To him distribution of force first means planning a battle which his men can fight, and, secondly, adjusting this plan (the mental factors) according to the physical and moral changes which the enemy's resistance is producing in their endurance without forgoing his object. This does not only entail his possessing judgment, but also foresight and imagination. His plan must never crystallize,

for the energy of the firing-line is always fluid. He must realize that a fog, a shower of rain, a cold night, an unexpected resistance, may force him to readjust his plan to the change in conditions, and, in order to enable him to do so, adjustments in distribution depend on his reserves, which form the staying-power of the battle and the fuel of all movement.

### 3. ECONOMIC DISTRIBUTION OF FORCE

Before the strength of a reserve force can be decided on it is necessary to work out a provisional distribution of force. We have decided on our object, and we have agreed, I will suppose, to surprise our enemy by moving against his left flank. We have also considered the most probable moves that the enemy is likely to make, and have temporarily decided that a certain portion of our force must be earmarked to secure our attack, and, if this attack succeeds, that we must follow it up by a pursuit, and, if it fails, that we must either reinforce it, attack in another place, or cover the withdrawal of the attackers. To begin with, we must distribute our total forces in three categories :

- (i.) Protective troops.
- (ii.) Offensive troops.
- (iii.) Reserves (including troops for the pursuit).

The next question is, How are we to decide on the strengths of these forces ?

We must turn to the conditions of war—the enemy, the theatre of war, communications, and time. There are many other conditions, but these four will suffice for my present purpose. We know approximately the enemy's strength, approximately his position, but very seldom his intentions. We can, however, step into his shoes, and, giving him full credit for common sense, we can work out a plan for him. From a good map we can study the theatre of war and the communications contained in it. We can divide it into areas which will resist movement and areas which will facilitate it, and then with a pair of dividers and a time scale we can consider our distribution.

The duties of our protective troops may be one or more of the following :

- (i.) To screen the advance of the offensive troops.
- (ii.) To protect them before, during, and after battle.
- (iii.) To protect communications and bases.
- (iv.) To restrict the enemy's movement in certain areas.

The duties of the offensive troops are :

- (i.) To attack or counter-attack the enemy.
- (ii.) To threaten the enemy or his communications and force him to form detachments.

And those of the reserves :

- (i.) To maintain offensive or protective strength.
- (ii.) To maintain freedom of manœuvre.
- (iii.) To effect concentration of force.
- (iv.) To meet unexpected situations.
- (v.) To carry out the pursuit.
- (vi.) To cover a withdrawal after a reverse.

From the above it will be seen that numerically the duties of the protective and reserve forces are greater than those of the offensive ones. This does not necessarily give us any fixed measurements of protective, offensive, or reserve strengths, but it does hint that until we actually engage the enemy our protective strength should be strong, our offensive strength weak, and our reserve strength as strong as possible, because it is from our reserves that we feed our offensive and protective operations. In an encounter battle, or one delivered against a defensive position, first we want to limit the enemy's freedom of movement, either by resisting him or pinning him down—the physical attack ; secondly, we want to surprise him—the moral attack ; and thirdly, to drive this surprise home and overwhelm him—the decisive attack. When we study military history we shall find that two initial faults are always recurring. The first is insufficiency of initial protective power, and the second insufficiency of reserves. The object in war is not normally gained by an initial offensive in strength, but by an initial resistance under cover of which genius can gain its end by a skilful use of reserves—in other words, by an economical distribution and utilization of force. The bull generally succumbs to the skill of the matador ; this is not a principle of war, but a very good rule to remember.

On the battlefield itself, to economize our own strength and to force the enemy to dissipate his by means of feint operations and surprisals is the first offensive step towards victory. Every weapon which we can compel the enemy to withdraw from the point of attack is an obstacle removed from the eventual path of progress. Every subsidiary operation should be related to the object, and effect a concentration of force on the day of decisive action. Every subsidiary operation should add, therefore, an

increasing value to final victory—that is, the power of producing a remunerative tactical and ultimately political dividend from the force expended during the war. Thus, even in so small an operation as a raid executed by twenty men the question must first of all be asked, What will be the tactical dividend if the operation proves successful? Will five per cent. be a sufficient recompense or should the action produce ten per cent.? “Is the game worth the candle?” This is the question every commander must ask himself before playing at war.

By this I do not mean that risks must never be taken; far from it. It is by taking risks *which are worth taking* that, more often than not, the greatest economies are effected and the highest interest secured. In war, audacity is nearly always right, but gambling is nearly always wrong, and the worst form of gambling is gambling in small stakes; for by this process armies are bled white.

#### 4. THE RELATIONSHIP BETWEEN DEFENSIVE AND OFFENSIVE DISTRIBUTIONS

By now I trust it will be realized that economy of force is gained by distributing force economically. I have stated more than once that, though in theory we may find it easier to think of actions as possessing offensive characteristics, in practice we must think in one term—*the protected attack*—whether we are advancing, retiring, or standing still. Such an attack is the relationship between protective and offensive power, and this relationship is governed by distribution.

From the standpoint of the defensive, protection is gained by shielding; it is but a means to an end, the end being victory and the means being life. Living men win battles, and, the more highly armed living men we can bring on to the battlefield and maintain there, the greater will be our chances of victory. Therefore whatever reduces living men to dead men must be secured against.

From the standpoint of the offensive, protection is gained by striking out, and striking out not only requires living men, but men who can give blows. The more blows we give the less we shall receive; for our opponent, being reduced to shield himself, will possess less means and opportunity to strike at us. Given a sword and a shield, a man will, when threatened, simultaneously raise his shield and draw his sword. The shielded attack is uppermost in his mind. To him it is instinctive protection to **kill** his adversary. With masses of men it is the same; the surest protection is the elimination of the danger.

From the above we can extract the following facts :

- (i.) The offensive is the strongest form of the defence.
- (ii.) The defensive is but a suspended state of the offence.
- (iii.) The offensive requires every available weapon so as to transmute the enemy's offensive into a defensive.
- (iv.) The defensive requires only sufficient men to maintain and protect the offensive.
- (v.) The offensive, being dynamic, requires the highest ability, dexterity, and power of movement.
- (vi.) The defensive, being static, requires skill with less mobility, and determination without a high degree of innovation.

From these facts may be elaborated the following theory :

- (i.) The offensive should be assumed on all occasions in which circumstances permit of it.
- (ii.) The defensive should be so organized as to permit of it changing into an offensive at the shortest possible notice.
- (iii.) The offensive cannot be too strong (endurable), therefore the defensive should not employ a weapon beyond the number absolutely necessary for security.
- (iv.) The offensive will require masses of weapons, consequently every weapon that can be spared from defensive work should be held in hand for offensive action.

This theory, I think, is based on sound reasoning, therefore to discard it is an act both dangerous and foolish, unless the ruling conditions are such as to render the principle of offensive action inoperative. In this case the most obvious thing to do is to cry quits or abandon the war and crave peace ; so that before complete destruction supervenes—and this is what passive defence leads to—war may be terminated and the offensive resumed at some later date, when circumstances are more auspicious.

Nevertheless, if the pages of history be consulted it will be discovered that this theory has been subjected to many a rude shock, and to the detriment of the infringer.

The following, drawn from the past, are errors worth remembering :

- (i.) The offensive languishes on that side which is least prepared to wage war, and which is, through ignorance of the principles of war, blinded by the belief that the enemy must

be held back at all points ; and that consequently it is necessary to be everywhere equally strong in men and superlatively strong in defences.

(ii.) The neglect of peace teaching, based on the experience of former wars, generally leads to the creation of "impregnable positions," in place of such preparations as will aid a rapid assumption of the offensive.

(iii.) The all but total depletion of a reserve—that is, a striking force—on account of the stringing out of troops for purely defensive tactics, such as the passive holding of trenches, villages, and fortified positions, renders a sustained offensive impossible.

(iv.) The general demoralization and disorganization of all ranks by the incessant creation of new defences, and the repair of old ones, detrimentally affects training and leadership, and consequently lowers the offensive spirit of all concerned.

From what I have said I hope it will be realized that, in practice, there is no dividing-line between the offensive and defensive in warfare, and, if an artificial one is created, correct distribution will not result. In offensive or defensive operations the object is identical. The object of the defensive (shielding) is not merely to preserve our lives, but to preserve them so that *we may more economically destroy the enemy's strength*. Consequently a defensive battle is based on an offensive plan or idea, which, through force of circumstances, cannot at once be put into operation.

Superiority of weapons at the decisive point means superiority of offensive power, and lack of this superiority is frequently the direct cause of defensive action. If men are squandered in attempting to avoid blows they will not be in a position to give them, and, not giving them, they allow their enemy to reduce his defensive strength to a minimum and to increase his striking power in proportion. It was against this type of warfare that the great Napoleon inveighed when he wrote to his brother, the King of Spain, saying : "The cordon system is only good against smugglers."

In order to obviate the inherent disadvantages and vices of the cordon system, the theatre of war, area of operations, or battlefield must be divided into positions of resistance and lines of pressure. These must be chosen from the point of view of the grand offensive, and all the stages of the offensive must be based on these positions.

For those detailed to resist the enemy, their immediate object is not to defend the position occupied, but to aid the offensive,

whether this offensive be next door to them or hundreds of miles away.

The cordon system simultaneously infringes the principles of distribution and of concentration, for, the defensive being the aim of this system, a time arrives when the offensive becomes inoperative, not through lack of weapons, but through impossibility to concentrate them, due to their faulty distribution.

The strength of garrisons must be in proportion to the defended areas they are ordered to occupy. Ten men will hold a blockhouse, and a blockhouse may delay a brigade ; ten men will not hold a fortress ; therefore, in our defensive plans, do not let us build fortresses when blockhouses will suffice. The strength of defences does not lie in their size, but in the harmony between their size and the strength of their garrisons.

#### 5. THE RELATIONSHIP BETWEEN DISTRIBUTION AND MOVEMENT

Distribution of force is also closely related to economy of movement. Many generals have attempted to win a Marathon race in sprinting time ; they have thrown in all their reserves at once, and have lost their wind a few hours after the battle has begun. Such operations as these are doomed to failure long before the first shot is fired. Others, through an over-extension of troops, particularly in those employed in protective and defensive duties, have found it most difficult to build up a reserve when such a force is required, time being insufficient to carry out the necessary concentration. Consequently, before we plan our defences we should consider the following maxims :

(i.) When from a state of defence the offensive is assumed, this act should in no way disorganize the existing defensive arrangements.

(ii.) Any delay in the assumption of the offensive from the defensive may prove fatal to both operations.

(iii.) In offensive action, *moral* weakens in proportion as improvization increases.

The lesson which these maxims teach is the vital necessity of a strong reserve in order to supply an army with motive power. If an economical distribution between offensive and protective troops has been made, it should normally be unnecessary to switch the protective troops on to offensive work. In place, the extra offensive power should be drawn from the reserves, and the protective troops no longer required should be relegated to the reserve. In a prolonged campaign, if the principle of

distribution is to be maintained, it is just as necessary to feed the reserves as to feed the firing-line. I noted this when I examined the principle of mobility; here I will only point out that economy of distribution is frequently affected by this principle, because, if the distances between the various parts of an army are great, or the means of movement slow, though offensive action may at first succeed, it will be found impossible to maintain a sufficient reserve to keep offensive action fluid.

## 6. DISTRIBUTION AND WEAPON-POWER

Distribution of force is also directly affected by the losses incurred. Every man killed or seriously wounded must be replaced, not only to maintain sufficiency of strength, but to maintain tactical organization. Whilst power of action must be kept fluid, organization, as far as possible, must be kept stable, for a fluid organization is a bad base for activity to work from. The continual replacement of casualties by men drawn from the reserves detrimentally influences organization and hampers leadership and command. In the recent war all the contending parties were so imbued with the idea that resistance was the main operation of war that thousands of men were slaughtered in order to hold a few miles of tactically valueless ground. Frequently during the years of position warfare the tactical value of positions was entirely lost sight of, and replaced by the idea that no position occupied must be evacuated; this idea being particularly comforting to incompetent commanders who were incapable of redistributing their troops. Needless to say, the value of a position depends on the tactical and strategical conditions which surround it, and if in attempting to secure one man behind a shield we lose ten shield-bearers, all good fighters, the operation is obviously an uneconomical one; yet this faulty distribution was constantly being made during the Great War, because the true purpose of the shield was not understood.

In offensive actions the losses were appalling, and this undoubtedly forced defensive operations to the fore. Only during the last year of the war on the Western Front was a more economical distribution established between protection and offensive action, and this was almost entirely due to a comparatively small number of armoured machines which enabled mobility and concentration of force to be applied. Though statistics are frequently misleading, the following are at least of some interest:

- (i.) From July to November 1916 the British Army lost approximately 475,000, it captured 30,000 prisoners, and

occupied some 90 square miles of enemy country. The casualties totalled to 5,277 per square mile.

(ii.) From July to November 1917 the losses were 370,000, the prisoners captured 25,000, and the ground occupied was about 45 square miles. The casualties per square mile were 8,222.

(iii.) From July to November 1918 the losses were 345,000, the prisoners captured 176,000 and the ground occupied was about 4,000 square miles. The casualties per square mile were 86.

Whatever the reasons for this reduction of casualties may have been, they should be discovered, so that we may learn more about the conditions which compel us to expend force, and the conditions which enable us to economize this expenditure.

Before and during the war all sides were obsessed by human tonnage. A study of the second book of Xenophon's *Cyropædia*, I think, might have disillusioned them, and brought them to realize the influence of superior weapon-power on the principle of distribution.

"I see," said Cyrus, "you reckon our cavalry at less than a third of the enemy's, and our infantry at less than a half."

"Ah," said Cyaxares, "and perhaps you feel that the force you are bringing from Persia is very small?"

"We will consider that later on," answered Cyrus, "and see then if we require more men or not. Tell me first the methods of fighting that the different troops adopt."

"They are much the same for all," answered Cyaxares, "that is to say, their men and ours alike are armed with bows and javelins."

"Well," replied Cyrus, "if such arms are used, skirmishing at long range must be the order of the day."

"True," said the other.

"And in that case," went on Cyrus, "*the victory is in the hands of the larger force; for even if the same number fall on either side, the few would be exhausted long before the many.*"

"If that be so," cried Cyaxares, "there is nothing left for us but to send to Persia and make them see that if disaster falls on Media it will fall on Persia next, and beg them for a larger force."

"Ah, but," said Cyrus, "you must remember that, even if every single Persian were to come at once, we could not outnumber our enemies."

"But," said the other, "can you see anything else to be done?"

"For my part," answered Cyrus, "if I could have my way, *I would arm every Persian who is coming here in precisely the same fashion as our Peers at home, that is to say, with corslet for the breast, a shield for the left arm, and a sword or a battle-axe for the right hand. If you will give us these, you will make it quite safe for us to close with the enemy,*

and our foes will find that flight is far pleasanter than defence. But we Persians," he added, "will deal with those who do stand firm, leaving the fugitives to you and your cavalry, who must give them no time to rally and no time to escape."

That was the counsel of Cyrus, and Cyaxares approved it. *He thought no more of sending for a larger force, but set about preparing the equipment he had been asked for. . . .*

Two thousand four hundred years ago it was recognized by the clear-sighted Xenophon that victory is not to be sought in distributing or concentrating *masses of men*, but in *perfection of weapons*. Weapon-power and *moral* are the two greatest sources of battle energy. Xenophon realized this, and he understood the principle of distribution of force, and the conditions in which this principle *could* operate, better, far better, than did any general in any European army in 1914. What a lesson! Two thousand four hundred years old, and we have not learnt it yet!

#### 7. THE PRINCIPLE OF ENDURANCE

Distribution as a mental principle governs the moral and physical spheres as far as resistance of moral and physical force are concerned, as I have just shown by a quotation from Xenophon in which we see Cyrus thinking out the more economical distribution in terms of weapon-power and *moral*. He realizes their intimate relationship. If all soldiers are equipped in a similar manner, and two armies engage in battle, then, if other things be equal, the numerically stronger side will win, because it is able to concentrate superior force on the battlefield. He might have attempted to rectify the inequality of the Medes by proposing higher generalship, but this is not a commodity which can be bought, and it may take a generation or more to cultivate it. He might have proposed imbuing the Median soldiery with a fanatical courage, but again this demands a slow process of education or the rapid process unconsciously applied by some religious genius. No, time is short, and it generally is so in war, so in place he argues: Our men are human, and they are possessed by a will to live and a will to fight; if I can only increase their means of fighting, so that they are superior to their enemy's, then in inverse proportion will danger be reduced, and, as it is reduced, so in direct proportion will their *moral* be increased, and, as *moral* rises, so will their determination to conquer grow.

This I believe to be the inner meaning of the dialogue between Cyrus and Cyaxares, and it is for this reason that I concluded my brief survey of the principle of distribution with this quotation; for it closely links the principle of distribution to that of

endurance, and, by showing how *moral* can be safeguarded and cultivated through physical means, it also links the principle of endurance to that of security.

The principle of endurance, in my opinion, is the principle which, under one name or another, has been most discussed in modern times, but least understood, and so misunderstood that the unnecessary waste of life resulting has been truly appalling. *Moral* has been on everyone's lips, and even the last joined subaltern will freely talk of the *moral* of his men as if it were a commodity. If a man is singing he says his *moral* is high; if grumbling, that it is low; discipline, obedience, cheerfulness, are all mistaken for *moral*, which, in fact, as I have shown, is a form of self-sacrifice. It is the artificial cultivation of an instinct in order to balance a higher or more potent instinct—that of self-preservation. This balancing process depends on the influence of the moral conditions of war on the instinct of self-sacrifice, which, like every other instinct, must be brought under the dominion of the will, if the will is to be a free agent. The principle which governs these influences is the principle of endurance.

#### 8. THE INFLUENCE OF PHYSICAL CONDITIONS

Our outlook upon endurance has been alchemical. We all have realized the influence of physical fatigue on the moral condition of our men. We all know that an exhausted soldier is a bad fighter. But, whilst we generally attempt to bring our troops on to the battlefield physically fresh, once there, we expect their endurance to continue erect like a material target until it is knocked out. We realize what physical strain means to *moral* before battle, but we do not realize what the strain of the battle itself means to *moral* until this strain begins to exert its sway, when it bends up the endurance of an army like a tornado striking a forest.

The reader may say this is ridiculous, and that we do realize it. I answer we do not, and in proof I urge that the reason why the Great War of 1914-18 was mainly a static operation on *all* fronts was because the offensive pressure of modern firearms was too much for moral resistance in the open, and that the terror of death could only be rendered endurable by going to earth. The soldier had, in fact, to encase himself in earth, like a limpet in its shell, in order to hang on to the rim of the battlefield. In brief, the unarmoured (either by earth or steel) man *will not*, in ninety-nine cases out of a hundred, face the machine-gun in the open.

In 1914 the maximum aimed fire of a division of infantry in line was about 50,000 rounds a minute; to-day, on account of the enormous increase in automatic weapons, it is about 150,000 rounds. Will it be contended that the moral endurance of our men is three times as high as it was in 1914? If it is, then the operations of 1914 are likely to repeat themselves. But this cannot possibly be urged, since human nature remains approximately constant; therefore the conclusion is that, if war broke out to-day, it would in character be even more static than it was ten years ago.

As the war proceeded, from the occupation of fixed earth-works, the soldier got into mobile steel-works—tanks and armoured cars—and, as armour enabled Cyrus to win his battle, so once again did armour enable such battles as Cambrai, Soissons, and Amiens to be won. The human nature of the soldier was the same, whether in a trench or a tank, but in the tank physical security safeguarded *moral* and, consequently, it could endure, and supply moral armour to the soldier's will, his determination to win, by instilling fear into his adversary, which fear was potentized by the fact that the enemy's infantry were impotent against tanks.

To-day, we have tanks, at least a few, but we still rely mainly on infantry, and, as I stated in chapter 1., we still believe that infantry is the superior arm, and, as our belief is not founded on fact, it is for this reason that I maintain that our outlook on endurance is alchemical. As long as we have faith in this belief, then, whatever we may think we can do during peace training, we shall suddenly know that we cannot do in our next great battle, and, through our inability to apply the principle of endurance, any attempt to apply the remaining eight principles of war must suffer, for true economy of force is unobtainable unless all are applied.

## 9. THE INFLUENCE OF WEAPONS ON DISCIPLINE

Discipline is the mental, moral, and physical system applied to prepare the soldier for war, and, as he cannot possibly fight in any other war but the next one, the controlling factors are the conditions of this war.

The next war will be evolved from the existing conditions of peace; thus the nature of peace will give us a clue to the nature of the next war. I do not intend to enquire into this condition as it faces us to-day, but it should be realized that as every advance in civil progress demands a commensurate advance in

the progress of war, so does every advance in the physical means of waging war demand a change in military discipline.

In the days of Frederick William of Prussia the kingdom he ruled was still in a feudal, certainly more than semi-feudal, condition. The national outlook was aristocratic, if not exactly autocratic; the masses of the people were looked upon by the dominant class as higher animals, the dominant class alone was human. The rank and file of the army were recruited from the lowest stratum of society, and commanded by the higher strata. The difference between leaders and led was, consequently, one of superiority and inferiority; the rank and file being looked upon as mere cannon-fodder. The moral outlook on war was pre-eminently brutal.

The tactics of the day added to this brutality; the lack of intelligence in the rank and file and the precision of the mechanical tactics of the day demanded an unthinking human machine which could approach an enemy to within fifty paces, and then load, present, and fire in so accurate a timing that years of drill were required in order to attain perfection. As the men were looked upon as animals, and as they possessed little intelligence and practically no sense of patriotism, discipline was instilled through fear. No appeal was made to heart or brain, but if a fault occurred a man's back was lashed bare to remedy it.

Frederick the Great won all his battles with the cat-o'-nine-tails, and his system was possible, since in a closely set three-rank line, no initiative save that of the commander could be developed. This human wall moved to the voice of one man, which, unthinking, was obeyed, since it commanded more terror than the enemy.

The eighteenth century was a period of decadence, and decay is the herald of growth. Out of the materialism of the period was struggling forth a new spirit—the spirit of humanity, which at length found expression and revenge in the French Revolution. Society was upheaved, and so was the art of war. Years of drill were now impossible; command by brutality was frustrated by insubordination. The French Revolutionary armies were untrained, and, lacking discipline, instinct took control, and the soldier, lacking the authority of command, fell back on his intelligence, and through native initiative and cunning sought to protect himself by skirmishing or by quitting the battlefield. Thus it was that the rigid wall was replaced by mobile fragments, which by degrees took form, grouped themselves, and were known as the *voltigeurs* of France.

In spirit the old system had gone, but as a shibboleth it

lingered on in all countries outside France, and, lingering on, brought to the front a small number of rational and courageous men who saw that discipline demanded a new spirit, the spirit of loyalty and affection.

Sir John Moore saw this quite clearly in England ; he saw that the weapon of the day demanded tactics which permitted of an extended order of fighting ; he saw that an extended line of men, or of groups of men, could not be commanded through fear, but only through affection. If between officers and men a family spirit could be established, then, as a son will fight for his father, so will a private soldier fight for his officer. He introduced, therefore, a new discipline to fit the new tactics, a discipline which was not based on fear, but on affection, not on the instinct of self-preservation, but of self-sacrifice, and to-day his system is the system of the British army and of most foreign armies as well.

In the days of Moore, Napoleon, and Wellington, the line, as the tactical attack formation, still held its sway, but by the end of the century it had become so elastic that in the South African War of 1899-1902 we find extensions of as much as fifty paces between men in the firing-line. To command such a line, even when the men were devoted to their officers, was most difficult, since the line could not be led—its length prohibited this—and since each man was isolated, and, not having been trained to fight on his own, lost confidence in himself. Thus it happened that the more intelligent, or rather less ritual-shackled, Boer frequently defeated us.

As the improved musket and early rifle in Moore's day had forced a change in discipline, so the magazine rifle demanded an equivalent change. It demanded of the soldier intelligence in its use as well as affection for his leader. But this change was not observed, consequently the endurance of the soldier was not understood.

By the date of the declaration of war in 1914, twenty years after the introduction of the magazine rifle, the discipline of the Martini-Henry, the Chassepôt, and the Needle gun still held sway. Leaders had been highly trained, but those who followed them had not been taught to lead themselves. The machine-guns decimate the most extended lines, and even the most loyal and self-sacrificing troops in the world were reduced to impotence, because, once their leaders were killed and wounded, they could not lead themselves.

The manipulation of the machine-gun, especially in mobile warfare, demanded team-work ; the use of tanks to blaze trails through the enemy's entanglements demanded the close support

of small packets of infantry, and so did shell-hole fighting. The tactical formation of the line of individual fighters was thus changed into a line of small packets of fighters, each packet operating at a considerable distance from the next. As distance has increased, so must intelligence increase, for every packet is a minute army which must hit, guard, and move in a definite area some two hundred yards in width. The leader of each packet has got to fight his own battle, as well as co-operate in the general battle, he must consequently be a man of high intelligence and determination. If he is killed, one of his followers must replace him, if continuity of movement is to be assured. Therefore all his followers must be intelligent and determined men, so that, if all become casualties save one man, this one man may continue to press on and co-operate with the groups on his flanks. Each man must be so disciplined that his endurance is based on fear, on affection, and on intelligence. He must be afraid to run away, because he will be punished—the endurance of Frederick; he must be willing to push on, because he has a high *esprit de corps*—the endurance of Moore: and he must have the intelligence to apply, in his own small sphere of action, the principles of war, because unless he can apply them he cannot fight intelligently.

I have gone to this length to show the influence of weapons on discipline because I am convinced that to-day it is one of the most important of military problems, and that, unless we reform our discipline, we shall never, in existing conditions, and still less so in those which are likely to confront us in the next war, possess that *moral* which will permit of us applying the principle of endurance of force.

#### 10. MENTAL DISCIPLINE

The influence of weapons on discipline is only one of many of the conditions of war which determine the moral endurance of the soldier. Two other important series are those which include means of movement and protection; others are education, civic-sense, social outlook, etc., etc.; but most of these lie outside the sphere of immediate military control. The example I have taken must, therefore, be considered simply as an example, and not as the only example, and, in place of multiplying examples, I intend briefly to examine the threefold order of discipline, namely discipline in the mental, moral, and physical spheres.

In the mental sphere I have already more than once accentuated the importance of knowledge, understanding, and wisdom. The

importance of these qualities of mind is catholic and not sectarian, for, in his own sphere of action, it is as important for a private soldier to be knowing, understanding, and wise as it is for the general-in-chief in his. In both ignorance is a bane and a curse, as it is in all spheres of life. Of ignorance Mr. Gore writes: ". . . it is those who know not what to expect who experience the most anxiety. Ignorance, fear, and terror go together. . . . Ignorant persons fear intelligent ones, because they dread lest the powers which knowledge confers be used to their injury." And again: "There are various other symptoms of ignorance, and amongst them are—indecision and fear of the natural risks of life. By paralysing the will through deficiency of sound ideas, ignorance causes indecision and want of promptitude, or else it makes men reckless from sheer desperation; without suitable knowledge a man cannot act safely or promptly."<sup>1</sup>

These quotations refer more particularly to ignorance in everyday life, but they are as applicable to the soldier as to the civilian. The soldier who does not know what war entails, when surrounded by war conditions, fails to understand them; he is surrounded by a fog of ignorance, fear is magnified through this mist, and reality, which he cannot understand, becomes a mirage of false dangers. Not being able to see consequences, he not only cannot see ahead, but cannot look around; he is blind and full of fears.

Knowledge, understanding, and wisdom, the three qualities which beget mental endurance, are not to be sought on the field of battle, and, unless mental discipline has been cultivated and ceaselessly cultivated during peace-time, it can seldom be cultivated during war, and then, as I have already stated, only at tremendous cost. To cram facts into our men's heads (the normal process of education) is not sufficient, for we must fashion our mental discipline so that they themselves can cultivate understanding. To understand requires examination; it requires criticism. On the battlefield we all have to obey someone, and generally spontaneously, but in peace-time it is different, and the intelligent man, whether soldier or officer, should be allowed to say: "I do not like the plan you suggest. I consider that it should be done this way." Then let both ways be tested and compared, for in their differences is to be sought true knowledge and understanding.

In war we are faced by an enemy; in peace the enemy is ourselves; it is through encouraging others to criticize our ideas and actions that we attack ourselves and discover our errors. To-day mental discipline is all but unknown, and consequently

<sup>1</sup> *The Scientific Basis of Morality*, G. Gore, pp. 392, 413.

obedience is blind, and men enter war blindfolded. On the battlefield action demands spontaneous obedience, therefore, if during peace-time we have cultivated true mental discipline, in war we shall move forward with our eyes open.

## II. MORAL DISCIPLINE

Moral discipline is not only based on those sentiments which stimulate the instinct of self-sacrifice, but on a knowledge of the conditions of fear. Knowledge in the moral sphere is as important as knowledge in the mental. Affection is a sacred quality, and not one which should be prostituted. Hitherto it has largely been attained by providing physical comfort—by interior economy, good feeding, clean and pleasant surroundings, etc., all of which are admirable, but not sufficient ; for, after all, a normally moral man will provide such for his dog. What we must aim at is to superimpose on all these excellent conditions a moral discipline based on respect. I have touched on this subject in chapter xii., when I examined the principle of determination, but there I dealt mainly with the general-in-chief ; here my concern is with all officers and leaders. This respect is based largely on the intellectual and moral qualities of the officer ; is he worthy of a man's affection and awe.

An ignorant person is rarely highly moral ; first, because it requires knowledge to enable us to do unto others as we would have them do unto us ; second, because, in the numerous difficult cases which occur with all men in going through life, an ignorant man is often unable to determine what is right ; and third, because it requires knowledge and reasoning-power to predict the consequences of our acts, and to distinguish truth from error.<sup>1</sup>

An ignorant man cannot be a good soldier. He may be brave and audacious, and, in the hand-to-hand struggles of the past, his ignorance may have appeared but a small defect, since he could rapidly clinch with danger. But to-day this defect has grown big ; the stout arm of Cannae, of Crecy, or even of Inkerman, demands at least a cunning brain. Fighting intervals and distances have increased, and there is more room for ignorance to display its feathers, and the corridors of fear are long and broad.

To-day, unless the soldier understands the realities of war, unless he understands what is going to make him fearful and how he is going to turn this condition to his advantage by making his enemy more fearful than he is, he opens himself to vigorous

<sup>1</sup> *The Scientific Basis of Morality*, G. Gore, p. 399.

surprise, and, even if he overcomes this surprise, his economy of force must suffer.

One of the most damnable of heresies is to suppose that, if we keep the soldier in ignorance of the realities of war, such as the power of the machine-gun, the power of the tank, of gas, etc., we are going to shield his *moral* on the battlefield, because he will step on to it unconscious of danger. This heresy belongs to the Satanic creed of ignorance. Ignorance is not only *always* wrong, but it is *the* evil of the world. It is not by ignorance that we stimulate the endurance of our men, for it is by knowledge and understanding of the realities of war that we do so. This understanding, by fortifying courage, strengthens determination, which, coupled with wisdom, leads to economy of means and of action.

## 12. PHYSICAL DISCIPLINE

Physical discipline is discipline of the body over the means—the weapons, means of movement and protection, and the employment of these means in harmony with the most likely conditions in which they will be used. This discipline aims at economizing, through a correct use of means, the expenditure of moral force so that the will of the general can express itself more fully.

The main fault in existing physical discipline lies in a lack of appreciation of the true meaning of moral endurance, and its cultivation. We are still guided by the shibboleths of the Prussian System. Thus, though we should now have realized the importance of stimulating individual initiative, we cramp this quality by months of close-order drill, which, in place of developing it, induces a comatose collective spirit which has no will of its own.

In the days of Frederick the Great, as I have shown, the unthinking instrument was at least an effective weapon, since the voice which commanded obedience on the drill square could equally well command it on the battlefield. To-day this is no longer possible, consequently our aim should be, not to drill our men into unthinking machines, but, instead, to cultivate within each one of them a high sense of leadership. If we were to spend as much time in training leaders as we now do in creating automata, we should certainly gain in the physical discipline which the modern battlefield demands, even if our men lost some of that antiquated elegance which is so attractive on the parade ground.

Leadership cannot be taught as a drill, for leadership, like dry-fly fishing or riding a horse, does not depend anything like

so much on book knowledge as on discovering one's own limitations and on overcoming self-consciousness. To train our men to become leaders, we must allow them responsibility, for it is through responsibility that leadership is cultivated. A child responsible for the care of a hutch of rabbits will cultivate a higher sense of leadership than a full-grown man bellowed at by another on the drill square.

As regards weapon-training, which should be included in the category of physical discipline, I will not say much, as its value is universally recognized. Yet one point is frequently overlooked, namely that, though each weapon possesses certain definite powers, these in battle are modified by the power of the other weapons; consequently, unless we understand this correlation and train accordingly, the conditions of our weapon-training will not coincide with those experienced in war.

I think that I have now shown the complexity of the various conditions in which we are called upon to apply the principle of endurance, a principle which, I will repeat, is being consistently violated. Knowledge in conditions, as with all the principles of war, is essential to its application, but, whilst in the case of several of these principles it is difficult to arrive at the value of war conditions, the conditions I have mentioned are not difficult to grasp or to create, and on how far we are able to create them during peace-time will depend our endurance during war.

### 13. THE EXPENDITURE AND MAINTENANCE OF ENDURANCE

In war moral force is expended in the form of moral friction or explosion, mainly caused by physical danger and loss, and mental misunderstanding of the conditions which surround it. It is maintained by removing danger, by establishing comfort, and by the solidarity of order and organization.

In place of examining these minor though all-important conditions, I will now turn to endurance in a higher form.

The will of the general-in-chief and the will of his men must endure—that is, this dual will must continue in the same state, and in war local conditions are continually weakening this state and threatening to submerge it.

To the commander endurance consists, therefore, in power of overcoming conditions by foresight, courage, and skill. These qualities cannot be cultivated at a moment's notice, and the worst place to seek their cultivation is on the battlefield itself. To enter a battle with a failing heart and an empty head is far worse than bringing a gun into action with a lame team and an empty limber.

The commander must, therefore, be a mental athlete, for his dumb-bells, clubs, and bars are the elements of war, and his exercises the application of the principles of war to the conditions of innumerable problems. In the past this has seldom been done, and many noted generals have spent years in an army, and have had statues erected to their memory, who never touched a dumb-bell or even carried out a mental goose-step.

In an army endurance is intimately connected with numbers, and, paradoxical as it may seem, the greater the size of an army the more difficult is it to maintain its moral solidarity ; for, as size reduces speed of movement, so does size reduce speed of thought and increases the area and speed of fear. The reason for this is a simple one. One man has one mind ; two men have three minds, each his own and a crowd or group " mind " shared between them ; and the larger the crowd the more difficult is it to control the crowd rationally, and the less it is controlled the more susceptible to instinct does it become. If a task which normally requires a thousand men can be carried out by one man, then this one man, morally, will possess a much higher endurance than any single man out of the thousand.

Physically, endurance has little to do with numbers, for the greatest encumbrance on the battlefield is man himself. One invulnerable man is worth a thousand vulnerable ones, and, though complete invulnerability is unobtainable, the principle of endurance, in its broadest sense, should aim at rendering *moral* as invulnerable as possible—that is, the securing of it against the bombardment of the enemy's initiative so that moral force may endure as the mainspring of offensive action.

As the principle of endurance has as its primary purpose the security of the minds of men by shielding their *moral* against the shock of battle, inversely the principle of demoralization, or of surprise, aims at the destruction of this *moral*. First, in the moral attack against the spirit of the enemy's nation ; secondly, against the plan of its commander-in-chief, and thirdly, against the *moral* of the soldiers under his command.

Hitherto the third, the least important of these objectives, has been considered by the majority of soldiers as the main objective of this great principle, and in the last great war the result was that the attacks on the remaining two, being overlooked during days of peace, were only slowly developed during the days of stress which followed the outbreak of hostilities.

Since wars are no longer duels between armies, but struggles between nations, the moral attack on the enemy's national spirit is becoming more and more the first and decisive object of a war ; and, whatever may be considered legitimate warfare to-day, it

is all but a certainty that the energies of the next great war will mainly be directed against this objective, and relentlessly waged by every means at the disposal of the belligerents. This being so, let us as a nation be on our guard lest we become demoralized even before war be declared, for on our national endurance will depend the future success or failure of our arms.

To discredit the policy of our enemy's government is our second moral objective ; this is accomplished not only by raising internal discord, but by a persuasive propaganda amongst our enemy's allies, active and neutral. By forcing these allies to bring a disruptive influence to bear, we undermine our adversary's political power, we force him to modify his policy, and, through these modifications, we cause a disruption in the plans of his general staff, and thereby undercut the moral stability of his troops.

The controller of fear is *moral*. In the past *moral* has been attacked by gunpowder ; in the future the indirect and unseen weapons of insidious propaganda will, I think, play a far more dangerous part.

The physical strength of an army lies in its organization, controlled by its brain. Paralyse this brain and the body ceases to operate. Paralysis may be creeping or it may be sudden ; the first constitutes the moral attack, the second the moral assault ; both of which are resisted by putting into force the principle of endurance.

#### 14. THE PRINCIPLE OF SECURITY

I now come to the third of the principles of resistance, namely security, which is the base of offensive action. "What is the object of defence?" asks Clausewitz, and he answers: "*To preserve.*"<sup>1</sup> To preserve what? The endurance of offensive action expressed in the determination to win, which presupposes movement. According to Jomini, "He who awaits the attack is everywhere anticipated,"<sup>2</sup> This is true unless the waiting side is so secured that conditions are against the attack succeeding. If it is not so secured, then to await the attack is a violation of the principle of security. From this it will be seen that it is difficult to determine where the principle of security begins and ends ; but, though this is more clearly apparent in the case of this principle, this difficulty exists with all the remaining principles since one merges into the other, and the complete nine into the law of economy of force.

When the mind wishes to stabilize itself it takes up what may

<sup>1</sup> *On War*, vol. ii., p. 134.

<sup>2</sup> *Art of War*, p. 73.

be called a "protective attitude," and to give tangible expression to this stability it first makes a demand on moral resistance, and, secondly, on physical resistance. The security resulting from these two forms the base of all offensive action, and the reason is that normal man is influenced in a far higher degree by his instinct of self-preservation when confronted by danger than by a desire to assert himself. During peace-time this moral condition is invariably overlooked, for, as danger is absent, the instinct of self-preservation remains dormant, and the soldier becomes bellicose in the extreme. He demands all kinds of offensive weapons, plans every manner of offensive tactics, and is for ever pommelling his imaginary enemies *because they are imaginary*. Once replace these images by living men armed with lethal weapons, and instantly the soldier performs a mental somersault and seeks to secure his life the moment it is threatened. We must remember this, for otherwise the whole of our peace-training will be based on faulty premises. It is one of the greatest of errors to believe that teaching men how to protect their lives and to set a value on security will induce them to become cowards on the battlefield. On the battlefield men are always cowards, or, if this word appears too strong, then prudent people. The man who does not mind being shot at is a dangerous lunatic; also the man who does not know how to protect his life is going to "let his leader down" by getting shot at the very moment the leader requires his services most—that is, when he is in the greatest danger. If a soldier thinks the instinct of self-preservation can be abolished, then he should resign his commission, for there is no place for him in an army—not even in a base store. In place, as I have already suggested, we should utilize this instinct by turning it into an alarm-bell which will awaken protective reflex action which, when fear seeks expression, will unconsciously and instantaneously suggest to the soldier an act which will lessen the danger without impeding his progress.

We must not confound these conditions of security with *moral*. *Moral* is the force which, by balancing fear, allows determination to impel the soldier forward. *Moral* includes patriotism, esprit de corps, comradeship, confidence, loyalty, etc., all of which are acquired qualities and virtues. These are being sapped and undercut by fear. The means are, consequently, those actions and physical things which shield *moral* from these attacks. In a highly-trained soldier the most important of these actions is the offensive itself, and why? Because the most certain security is attained by defeating the enemy—that is, by removing the cause which, as its effect, awakens fear. The real battlefield is inside the skull and not outside it, and as the brain is

the best protected of all the organs, being completely armoured by the skull, so must *moral* be completely armoured by the application of the principle of security to the conditions which surround the soldier. A sudden blow on the head will stun a man ; a sudden blow to *moral* will frequently stun the individual soldier, and sometimes stun even an entire army. It is against such blows, small and great, that men must be secured ; physical blows are but the left-hand punches which culminate in this right-hand blow to the jaw, and the jaw may not necessarily be a military one.

In all pursuits mind is the directing force. To the actual combatants this directing force expresses itself in determination. As *moral* is used up self-preservation takes charge, consequently unless *moral* is economically expended there is always a chance that we shall fail to gain our object.

The objective we have set ourselves is our goal ; determination is the propellant we use to gain it. The maintenance of *moral* is not in itself an objective, but a means to gain our object ; we have got to expend moral force, and in modern wars, in which whole nations are concerned, it must not be forgotten that all military action is but a means of securing the prosperous existence of the nations at war. I intend, therefore, before dealing with the purely military aspect of the principle of security, to hark back to chapter iv., and examine how this principle can be applied in order to shield the gaining of the ethical, national, and economic objects of war.

#### 15. ETHICAL SECURITY

In chapter iv. I dealt at some length with the non-military objects of war. As regards the ethical object, I pointed out that the winning of it formed the true foundations of peace, consequently it is worth securing.

During the Great War a battle of propaganda was waged by all belligerents, though at its beginning few were prepared to wage it. Our object was to prove that the Germans were "dirty dogs," and that it was they who had started the war. I do not suggest that our contentions were wrong, but I cannot help feeling that when the Germans retaliated the means we employed to protect our national character were not of the best. In place of maintaining our reputation for fair play we hired a pack of journalists to defend us. These people, who had spent their lives in raking filth out of the law courts, went to mud with the alacrity of eels, and, though they undoubtedly succeeded in blackening the German nation, we ourselves became somewhat piebald in these gutter attacks.

The point I wish to accentuate is that propaganda is not only a powerful weapon, but that it becomes a two-edged one if held by an unclean hand. The Germans had committed sufficient crimes for us to pillory them publicly, but to accuse them of nailing babies to barn doors and extracting margarine from dead soldiers was to smother ourselves in ridicule. By such means a nation cannot secure its character against attack ; it may injure its enemy, but in doing so it injures itself. A liar, be it well remembered, is a moral suicide.

#### 16. NATIONAL SECURITY

National insecurity is one of the fundamental causes of war, especially if the nation concerned is militarily powerful. All nations are impelled by the instinct of national preservation to seek secure frontiers, and, if secure frontiers cannot be gained by peaceful methods, powerful nations will seek to secure them by war. A strong frontier is nothing else than a natural fortress, which, when garrisoned, secures the nation against attack. The object is the security of the nation, consequently, as I have already pointed out, the breaking down of the national will is the surest means of forcing the fortress to capitulate.

Up to quite recently nations could only be attacked on land, or on the sea if they were not self-supporting, but to-day they can be attacked from the air. This possibility has introduced a problem of security which must revolutionize the whole military outlook.

Direct protection against aerial attack is purely a military problem, namely command of the air, so I will not consider it here. Indirect protection is a civil problem ; in other words, the civilian population must protect itself by so organizing itself that its *moral* can withstand a series of terrific nerve shocks.

The main weakness in the nervous system of great nations is to be sought in the concentration of vast numbers of people in towns, the dependence of these people on regular traffic, and the rapidity with which a disaster may become contagious by use of the post-office, telegraphs, and telephones.

To apply the principle of security in existing conditions is most difficult, because they are such as render the contagion of panic almost electric in its swiftness. It would consequently appear that the solution of this problem lies in being prepared at a moment's notice to isolate panic by switching off the whole of the intricate system of communications which brings every part of a country in time within a few seconds of each other ; or, to put it still more plainly, to paralyse temporarily the country or

district attacked, and, under cover of the inaction resulting, to establish order, and, once it is established, to follow this paralytic stroke up with a flood of reassuring messages. What is here suggested is, not the application of a principle to a series of most difficult conditions, but the instantaneous creation of a condition in which the principle can most readily and rapidly express itself. On the battlefield this is seldom possible, but I see no reason why, amongst the peaceful population beyond the battlefield, such a method should not work successfully.

### 17. ECONOMIC SECURITY

To ourselves, a non-self-supporting country, the importance of economic security is too obvious to require accentuation. In war we have got to secure ourselves against loss of food supplies, loss of markets, and loss of internal resources. Attacks on these may be either direct or indirect; in the first case, such as attacks on our overseas trade by surface craft, submarines, and aircraft; in the second, by extortionate prices asked for war necessities not provided by the country itself, and an unscientific use of all resources by the defence forces.

I have already dealt—in chapter iv.—with war economics, and, whether the factors I have quoted are correct or not, this in no way vitiates the importance of the higher command of an army realizing that economy is essential in war. If gold is the sinews of war, and gold, as money, is only “potted” man-power, or work, then every coin badly spent—that is, uneconomically spent—is a sinew injured. To prepare soldiers to exercise economy in war it is essential that they should be allowed financial responsibility during peace-time. Without such responsibility, though the necessity of economy may be appreciated, the means of effecting it will not be understood, and in war they cannot be learnt. To-day we are not only paying for the cost of the war, but for the parsimony which preceded the war. We are paying for our previous lack of economic “backsight,” insight, and foresight, and our ignorance of how to secure ourselves against self-inflicted economic injury.

### 18. MILITARY SECURITY

I have dealt with these three non-military forms of security because, throughout this book, I wish to impress upon the student the importance of realizing that war is a national and not merely a military activity. The entire military power of a nation is

based on civil power, and never more so than to-day, when in war nations are *nations in defence*. I will now turn to the military aspect of the principle I am examining.

Napoleon once said—and his words are full of truths—that :

You should make a start from such a powerful defensive order that the enemy will not dare to attack you. . . . The whole art of war consists in a well-reasoned and extremely circumspect defensive, followed by rapid and audacious attack.

The soldier should learn this saying by heart, and do more than remember it, for he must *understand* what it means. It means that the foundation of success is strength, and that offensive action is based on defensive power. Every action or movement forms the base of the next action or movement, consequently every action is related to the last, and must be considered with reference to the next. Thus alone can the object be maintained. There in front of us is the ultimate goal, and each move in the game is to gain it. Every action secures the next action. It is because of this interplay that the principle of security never ceases to operate ; it is always operating, but unless we can control it its activities may defeat us.

The object of battle being to destroy the enemy's fighting strength, that side which can best secure itself against the blows of its antagonist will stand the best chance of winning, for by saving its men and weapons it will augment its offensive power. Security is, therefore, a shield and not a lethal weapon, and to look upon it as a weapon is to turn war upside-down. Consequently the defensive is *not* the stronger form of war, but merely a prelude to the accomplishment of the military object of war—the destruction of the enemy's strength by means of offensive action augmented by defensive measures. What is the stronger form of war is a well-secured offensive operation. I mention this here because, in the minds of some, defensive warfare is still held as the stronger form, the reason being the terrible losses all parties recently sustained in attacks on trenches. These people are obsessed by the idea that the whole art of war consists in constructing a Chinese wall of fire-power ; of letting the enemy attack it, and commit suicide by doing so. The final actions of the Great War should have dispelled this illusion.

As the offensive is essential to the successful attainment of the object, it stands to reason that security without reference to offensive action is no security at all, but merely delayed suicide. Every man needlessly employed in defensive work is a weapon-wielder less for offensive operations. In order to avoid an excessive use of men for purely protective duties recourse is

had to guards and outposts, the strength of which depends on the condition of time. The time it will take an enemy to cover a certain distance, or the time it will take his opponent to frustrate him doing so. Security, therefore, may be frequently considered as simply a means of gaining time at the expense of the enemy.

As danger and the fear of danger are the chief moral obstacles of the battlefield, it follows that the imbuing of troops with a sense of security is one of the chief duties of a commander; for, if weapons be of equal power, battles are won by a superiority of nerve rather than by a superiority of numbers. This sense of security, though it may be supplemented by earth-works or mechanical contrivances, is chiefly based on the feeling of moral ascendency due to fighting efficiency and confidence in command. Thus, a man who is a skilled marksman will experience a greater sense of security when lying in the open than an indifferent rifleman in a trench.

Given the skilled soldier, the moral ascendancy resulting from his efficiency will rapidly evaporate unless it be skilfully directed and employed. As in all undertakings—civil or military, ultimately we come back to the impulse of the moment, to the brains which control impulse and to each individual nerve which runs through the military body. To give skilled troops to an unskilled leader is tantamount to throwing snow on hot bricks. Skill in command is, therefore, the foundation of security, for a clumsy craftsman will soon take the edge off his tools.

### 19. STRATEGICAL SECURITY

The basis of strategical security is the soundness of the plan of action, the logistical distribution of the troops, the maintenance and correct location of the reserves, and the protection of the lines of communication. Other factors which influence strategical security are infrequency of change of objective, or direction, and the absence of unnecessary movement.

Strategical security is also attained by placing an army in a good position to hit at the communications and headquarters of the enemy whilst protecting its own—by so distributing a force that it may live at ease and fight efficiently. Though movement, actual or potential, is the soul of strategy, the placing of forces in the area of operations so that their very position threatens the enemy's initiative is the spirit which should imbue all generalship, for on it rests the security and offensive power of an operation, a campaign, or of a war.

The relation between strategy and tactics is one largely governed by the principle of security and the principle of distribution of force. Strategical distributions and operations aim at securing tactical action. They do not merely protect it, but they enable it to take place, either directly through movement, or through co-operation or combination of forces. In the battle itself security is effected by tactical action, but before the battle the strategical distribution is the "defensive order" as employed by Napoleon, which I examined in chapter viii.

## 20. TACTICAL SECURITY

Grand tactical security may be defined as "the choosing of a vulnerable target or the refusal to offer one." Here the factors are mainly those of time and space. The rapid employment of weapons at the decisive point, whether for attack or defence; the general organization of battle—the penetration of a front, the envelopment of a flank, the endurance of the fight, whether by retirement or pursuit—those and many other actions build up that general security which cements the units of an army into one co-operative whole.

Minor tactical security embraces the entire gamut of a soldier's actions—his *moral* and efficiency, the quickness and audacity of his leader, the judgment and determination of his commander, and the confidence of his comrades. On the battlefield itself security will depend on seeing and not being seen, on hitting and not being hit, on moving and not being moved. The first embraces surprise, observation, and cover from view; the second the use of weapons, ground, and armour; the third mobility and protected movement. To move quickly is to reduce the chance of being hit. To suit formations to the conditions of fire and ground is simultaneously to increase hitting power and to reduce the vulnerability of the target.

In all tactical action surprise offers the most effective means of securing an attack or of breaking down security. In all circumstances it must be applied and guarded against. As a surprisal is an operation which seldom permits the party surprised time wherein to carry out a deliberate counter-move, all troops should be trained to execute certain counter-actions automatically on being surprised. Though these may not always be the most suitable in the circumstances, it must be realized that the power of surprise lies in stunning the reason. Men have no time to think: Shall we do this, or shall we do that? Leadership on these occasions is frequently reduced to zero, consequently to prevent

chaos intervening—and it is loss of order which is the true enemy—soldiers should be trained to carry out collectively and spontaneously a definite move to meet a certain type of surprise. Thus—to take a few examples—what action will best prevent loss of order, and consequently of control (not necessarily loss of life), in the following circumstances: an aircraft attack against a marching column; a tank attack against a deployed line; a sudden attack in front or in rear? The point to note is that immediate counteraction is not necessarily offensive action, that it should aim not so much at protecting the man as protecting the organization. When a salvo of shells falls near a company in close order it does not scatter into human dust, but into sections in artillery formation. If necessary, directly the danger has passed the whole company can, in a minute, be re-formed in its original close order. This is a good example of what I mean by automatic counteraction, or the security of organization against a sudden surprise. To-day we have many new weapons against which there must exist some counteraction, though these various means of securing local command may in no way be offensive in nature. These means must be thought out and practised.

## 21. NEW PROBLEMS OF SECURITY

I have just made mention of new weapons, and I will end this chapter by considering their influence on existing methods of security. The changes which these weapons (especially gas, the aeroplane, and the tank) are daily creating are radical. I cannot examine them in detail in the space at my disposal, but I can take two or three examples, and by means of these show how completely our former ideas are being changed.

I will first examine the elastic square. To protect itself an army throws out an advanced, a rear, and two flank guards, sufficiently far from the main body so that, if one or more of these guards is attacked, the main body will have time to deploy. To-day the aeroplane can “hop over” these guards, and in a few minutes attack the main body, which, to secure itself, will have to add a fifth guard to its existing four—a sky, or air, guard. Such a guard must consist of aircraft which, offensively, are immobilized whilst employed on this protective work. If the column is a mechanical one it can be armoured, and if tracks, in place of wheels, are used it can move across country, and so reduce the size of the target it offers. In the past indirect protection against the bullet was sought by extensions, and direct protection by cover by ground. An advanced scout signalled

the approach of the enemy, and the troops extended and took cover. In future, though the means will have altered, the application of the principle of security will be identical. An aeroplane ten miles away will signal hostile aircraft; in a minute or two the mechanical column will take up anti-aircraft extensions, and, in place of ground, will use armour.

I will take another case, which may be represented by the letter T. The vertical stroke represents a column halted for the night, and the horizontal stroke represents its outposts. Hitherto the distance between the outpost line and the main body has been calculated on the time factor—the resistance required to gain sufficient time to enable the column to deploy. Against an infantry attack the outposts may resist for several hours; against a tank attack they will be overrun in a few minutes; and perhaps a quarter of an hour later the main body will be attacked, when it is in no way prepared to meet an attack. Should this column be a mechanical column there will be no necessity to deploy, for it will rest deployed. The application of the principle of security is exactly the same, but the conditions in which it is applied have changed.

Here is another example. Six good roads exist in a certain area, and these are to be used to concentrate three army corps at a definite locality at a definite hour. The enemy, by means of tanks, soaks a mile or two of three of these roads (at places where they run through defiles) with vesicant and lachrymatory chemicals. The result is that three divisions are delayed for twenty-four hours. A mechanical column can move off the road, or, if its machines are gas-proof, it can move straight ahead. The application of the principle of security is the same—namely, avoiding the danger—the only difference is that one type of column can avoid it more speedily than the other.

These three examples will be sufficient to illustrate the type of changes in security which are now taking place—not changes in principle, but in the conditions of war. Whilst ten years ago security was in nature mainly lineal, to-day it is no longer so, and the principle of security has to be applied to entire areas as well as to battle-fronts; consequently to entire nations as well as to armed forces. Unless we understand these changes we cannot apply this principle of security, and unless we can apply this principle we cannot apply the remaining eight.

## CHAPTER XV

### THE APPLICATION OF THE SCIENCE OF WAR

The heights by great men reached and kept  
Were not attained by sudden flight,  
But they, while their companions slept,  
Were toiling upward in the night.

—LONGFELLOW.

#### I. A BRIEF SUMMARY OF THE METHOD

I HAVE now outlined the foundations of my system, which, with all its faults—and it must possess many—is an attempt to establish the theory and practice of war on a scientific footing by applying the method of science to the study of war. I do not claim to have discovered any talisman which will protect the soldier against defeat, or charm him to victory ; but what I hope I have done is to convince him that war can be reduced to a science, and must be so reduced before, as an art, its forces can be correctly expended. Further, I feel that it is through system that study becomes interesting, and, because of the lack of system, military history, though read, has been of so little value to the soldier, for many have profited from it no more than the old Mandarin general in Mr. Flecker's " Golden Journey to Samarkand " :

Who never left his palace gates before,  
But hath grown blind reading great books on war.

Had he studied war on a system which would have enabled him to have discovered why certain actions failed and why others succeeded, his eyes might have been opened. I will therefore now summarize very briefly a few of the salient points in my system, and then show how it can be applied to the study of military history, or to the development of a plan of campaign or battle, or to the solution of any tactical problem or exercise.

The causes of a war enable us to obtain an insight into its nature—that is, the type of war fought or to be fought—and on this nature depends the political object of the war. This object should direct the policy of the government, which should be put into force by the plan of the general-in-chief. In its turn, the

plan is determined by the military object, the gaining of which demands expenditure of force, and expenditure depends on the conditions which surround and influence the instrument of war, whether it consists of all three fighting Services or only one Service.

Thus we are reduced to three military requirements of the first importance :

- (i.) Knowledge of the powers and limitations of the instrument.
- (ii.) Knowledge of the powers and influences of conditions.
- (iii.) Knowledge of how to expend force profitably.

The instrument includes three forces—mental, moral, and physical force—which must be organized before they can be profitably expended. Organization demands a definite structure and maintenance, and when these two are in harmony organization can be controlled.

Conditions influence the three forces of the instrument, therefore the conditions of war may be divided into three categories, whether these conditions be material or human.

The problem now resolves itself into discovering :

- (i.) The elements of the forces of the instrument.
- (ii.) The influence of the conditions on these elements.
- (iii.) The law which governs changes of force in the elements as conditions influence them.

The forces of the instrument I have reduced to nine elements.

- (i.) Mental elements : reason, imagination, and will.
- (ii.) Moral elements : fear, *moral*, and courage.
- (iii.) Physical elements : weapons, protection, and movement.

The influence of conditions are that they can assist, resist, and transform the force of each element, and through them the nature of the instrument.

To discover the law which governs the changes of force I turned to physical science, for if the laws of uniformity and causation govern all forces in the universe, they must also govern the expenditure, or changes, of forces in war. I learnt that all changes of force were expressed in motion, and that all motions were the resultant of the pressure and resistance exerted by one or more forces on another, and I called the law which governs these changes the law of economy of force.

As this law governs all changes in force, the next question is how to apply it.

We know that all forces are continually in tension—that is to say that they are ceaselessly pressing and resisting one another. We know also that when the conditions in which tension takes place are the same this tension does not vary. Consequently, if we know what this tension is and how conditions influence it, when certain known conditions occur we can expend our force economically, that is as it would be expended were our wills replaced by the law of economy of force.

As in war the forces of the military instrument find their tension in three spheres, and as each can be reduced to three elements, we obtain nine general expressions of the law of economy of force, which I have called the principles of war. These principles are abstract generalizations of the tensions within the elements caused by the varying influences of the conditions of war.

In the mental sphere we direct, concentrate, and distribute force in idea, and base our actions on these ideas ; this gives us the general outline of our plan.

In the moral sphere we adjust this outline according to a more detailed examination of the elements of this sphere as influenced by the conditions of war, and the principles of direction, concentration, and distribution change into those of determination, surprise (maximum power to exert moral pressure), and endurance (maximum power to resist moral pressure).

In the physical sphere we carry this adjustment of our plan to its conclusion by examining in detail the influence of conditions on the physical elements of this sphere. Determination now evolves into mobility, and surprise and endurance into offensive action and security.

Thus does the law of economy of force, in the form of the principles of war, ceaselessly operate through all the spheres of force, whether we apply this law or not. If we fail to do so, by attributing an erroneous cause to an effect, or vice versa, then our plan will fail to synchronize with this law, and punishment will be meted out to us in *exact* proportion to our errors.

As, generally speaking, the fewer the parts of any machine the simpler becomes its working, it is, as I have attempted to show, an assistance to rapidity of thought to arrange the nine principles of war into three groups, not according to the nature of the spheres of force, but according to the functions of force in each sphere.

Thus the interplay between the faculties of reason and imagination controls the will by directing it. The interplay between

the sentiments of fear and *moral* controls courage by determining its value. And the interplay between the physical means—weapons and protection—controls movement by regulating its mobility.

We thus obtain a compound idea of control by uniting the principles of direction, determination, and mobility. Similarly, by uniting those of concentration, surprise, and offensive action, do we obtain a compound idea of pressure ; and by uniting those of distribution, endurance, and security, a compound idea of resistance.

Finally, my whole system can be concentrated into seven words :

Cause—Object    { Elements }    Objective—Result  
                          { Principles }  
                          { Conditions }

The cause may be either the cause of a war or of an order received, and the result is the terms of peace or the effect of our actions in carrying out the order. The object is our intention, and the objective is gained when our intention is fulfilled. The elements are the forces at our disposal, and the conditions all forces which influence them ; and the principles are our guides, and the law of economy of force is our master.

## 2. THE STUDY OF MILITARY HISTORY

The study of history of any kind is always difficult, not only because the human factor is so pronounced, but because the atmosphere of past events is not the atmosphere we breathe to-day. Reliability of evidence is the first requisite, the second being the reality of conditions in which the event described took place.

In military history these difficulties are accentuated by the fact that evidence is based largely on the reports of eye-witnesses, which at the time cannot be subjected to criticism, and that the atmosphere of the battlefield is so tremulous with excitement that those who have breathed it are frequently at a loss to reproduce it even in memory after the battle is ended, and as time lapses its influence is rapidly forgotten. If this were not the case, we should not so often see during peace-training the amazing determination which is displayed and the total scorn of danger.

It is in peace-time that such terms as the following are invented : “ to the last man and last round ” ; “ dying in the last ditch ” ; “ holding a position at all costs ” ; “ to die at your post,” etc.,

etc. But in war most of us sympathize with the boy in *King Henry V* who exclaimed: "Would I were in an ale-house in London! I would give all my fame for a pot of ale, and safety;" for "The groan, the roll in dust, the all-white eye turned back within its socket" is a reality we are unaccustomed to in peace-time.

Before the outbreak of the war in 1914 I happened to be a student at the Camberley Staff College. At the time I had evolved part of my present system, and was appalled by the way I was expected to learn rather than study military history. It appeared to me to be done backwards. So to speak, we got into Mr. Wells's "Time Machine," and, carrying with us a big chunk of Camberley atmosphere, we set out, not for the Elysian fields, but straight for the Shenandoah Valley, never dreaming that a far more important war, namely the next war, the only one we could take part in, was ever going to be fought. To the Shenandoah Valley we went without really going there, and we carried with us an immense number of brain-sacks and a huge shovel. And what did we do when we got there? When we got to that place, to which in reality we never got to, because of the Camberley atmosphere, we shovelled facts and fictions into those sacks, pell-mell, to bursting-point, and then we came home and played golf! So many facts did I collect on the Valley Campaign that I believe, had I been asked the weight in kippers Stonewall Jackson ate for breakfast on the seventeenth Thursday of the year 1862, I should have answered off-hand: Five-sixteenths of a pound; and would have been right to within a quarter of an ounce.

This may be considered to be harsh criticism, but it is not intended to be solely destructive, for I have attempted to replace the system of 1914 by what I believe to be a better system, and I hope that twelve years hence my system will be as heavily attacked as I have attacked the one I suffered under; because it will show that progress has been made and the faults in my system have been discovered.

Who invented this extraordinary method of absorbing ink visually I do not know, for to find a parallel to it, would demand a return to the study of theology in the Middle Ages.

I have not related this personal experience as a digression, since the system of 1914, if not so vigorous, is still the system of to-day. The first fact to note is that the study of history possesses only one true value, the discovery of what may prove useful in the future. The object of the study of history is to prepare us for the next war, consequently all the ephemeral details of 1862, etc., should be passed over lightly, and attention concentrated on what is of permanent value in war. What is required

is the "why" and "how" of success and failure in a series of campaigns, and not the microscopic knowledge of any one campaign.

To return to the two initial difficulties. The best evidence is not local evidence, but distant evidence, and the evidence supplied by military writers who have had experience of war. Xenophon's history of Cyrus and Arrian's of Alexander, though not necessarily true in all respects, are models in reality. We not only listen to the historian, but we see the hero. The Cyrus of Xenophon is almost a fictitious character, nevertheless he is real, for such men do exist, and Xenophon was one of them. If now we turn, for example, to Dr. Conan Doyle's *History of the Great War*, which runs into several volumes, I cannot imagine any soldier discovering one item of value in it.

When, however, we turn to the second difficulty, the atmosphere of a war, Conan Doyle's work might help one to appreciate the astonishing superficiality of knowledge in an educated civilian of imagination during the years 1914-18. To breathe the atmosphere of war we must read books of the period, books written during the war or immediately after it, but with circumspection. For instance, Sir Philip Gibbs's *Realities of War* gives one a wonderful description of the sentiments of a maiden aunt in Upper Tooting shell-shocked by the *Daily Mail*, but it has nothing to do with what the soldier felt in France, for, though its writer was in France, he was still breathing the air of Tooting Bec.

Official histories convey no reality and no atmosphere, but only facts. To obtain atmosphere the memoirs of some gay and human soul, such as Samuel Pepys, should be first read, and then, when psychological insight into the period has been gained, the leading historians should be studied methodically.

### 3. THE APPLICATION OF METHOD TO MILITARY HISTORY

For reasons mentioned in the Preface of this book, I do not intend to examine an actual campaign in the light of my system; instead, I will briefly outline how I should proceed in this examination.

To understand the nature of a war, and it is its nature which determines its procedure, a clear grasp of the causes of the war is essential, and especially so in modern times. These causes are difficult to discover, since military historians are so apt to be prejudiced in favour of one side or the other, and political historians generally confuse pretexts with causes, and general historians, knowing so little about war, normally consider its outbreak as they would a cataclysm—an earthquake or a flood.

In small or local wars the difficulty of distinguishing causes is insignificant when compared to the discovery of the causes of a great war, for, whilst the origins of wars in the second and third degree are generally traceable to a clash of opinions, those of great wars are wrapped up in biological and psychological influences.

In examining the causes of a great war it is wise, I think, to go back to the last great war which preceded it, and to examine in detail the peace treaty which concluded it, and from its military, economic, and ethical aspects. It is worse than useless to begin our search in the period immediately precedent to the outbreak of war, since this period, politically, is a mass of lies, and, if we do begin by studying it, unless we are very careful, we shall be misled by the clever and calculated attempts of pots and kettles calling each other black.

Once we have settled on the causes, we next discover the object of the contending parties; what is their political intention? On one side there must be a definite aim, if not on both. To discover this intention it is not necessary to wade through many books, but to examine the mentality of the most influential statesmen and soldiers and the general outlook of nations.

If we study history with our eyes open, we soon discover how restricted are the influences of the masses, for, however democratic, socialistic, or communistic they may be, they are inarticulate. In place we find events revolving round a few leading personalities, more frequently than not philosophers, poets, men of science, etc., rather than politicians and soldiers. For instance, Hegel, Byron, Darwin, and Nietzsche had far more influence in fashioning the "mentality" of modern Europe than all the politicians and soldiers of the last century. It is men who, like William Blake say, "I must create a System, or be enslav'd by another Man's," which fashion the inner intention of war, which finds its tangible form in the political object of war itself.

We now arrive at the military phase of our study; the military objects, however unscientific they may be, are discovered in the respective plans of campaign, the values of which mainly depend on the ability and character of the opposing generals-in-chief; for their character should stamp themselves, not only on the plan, but on the armies they lead. If this is not the case, then we may be certain that they lacked personality, and were only figureheads.

The next problem is to evaluate the respective instruments of war—their organization, nature, and potential activities; for from these will their strategy and tactics be developed. Our sieve has nine compartments, and, in place of shovelling facts into brain-sacks, we should throw them up against this imaginary

series of grids. This will enable us to sort out facts according to their values. Thus we start with all the movements which take place, whether strategical, tactical, or administrative. The next two grids give us their offensive and protective values, the next three their moral values, and the last three their mental values.

In examining movement we should first enquire into the physical nature of the opposing sides ; there may be no intrinsic difference, but there may be an artificial one, such as the load carried. Our study may perhaps tell us that the load was too great, that equipment was thrown away, that marches were short, or that men fell out in numbers. These are important points, for man's physical strength does not vary much, consequently here we discover not only lessons of the past, but also for the future. Muscular energy is economized by mechanical means of movement. What has the campaign to tell us about these? The railways, the roads, the rivers, the canals, the sea, and the air ; what were the main influences of these means on the campaign ; how far did they assist the commander, and how far did they complicate his work? Deficiency of means of movement should also be studied under this heading.

The next pile of facts we should examine are weapons. Probably both sides are similarly armed, but possibly the employment of weapons differs. If so, what are the value of the differences, as well as the value of the weapons themselves? If a new weapon was introduced, what really was its value? Did it simply gain a fictitious reputation because one side had it and the other had not? What were its influences on existing weapons, on tactics, and on *moral*? The normal historian will tell us little about all these things, but by reading between the lines we shall discover a point here and another there, and by degrees accumulate valuable facts.

In the physical sphere our last question is protection. On what theory of protection are the two sides working? Is it direct or indirect, static or mobile? What are their various means of carrying out their theories concerning extensions, smoke screens, camouflages, trenches, obstacles, fire-power, armour, etc., etc.? What are their respective values in varying conditions? What appear to be their weak points and their strong points?

From all these considerations we obtain a tactical structure, and then from the physical we turn to the moral sphere of war, which animates it and maintains its force.

Leadership, based on an encouraged will, is the next problem to examine. What are the theories of leadership? They differ

in most armies ; in some they are autocratic ; in others democratic. What is leadership based on ? Is it fear, or affection, or the intelligent use of means ; is it all three, or which one in particular, and how do the men respond to each type ?

This leads to the nature of the *moral* of each side. What is its nature ? This depends first on national characteristics, and only secondly on military training. The nature of national *moral* differs, and sometimes considerably. Not only do we want to know the nature of the eventual theatre of war, but the nature of the beasts we are going to meet in it. Is not this what every hunter does ; he differentiates between the instincts and individual characteristics of the various animals he intends to hunt, and varies his actions accordingly. If we are going to fight Turks, we want to know what is meant by *a Turk*, if Germans, then equally do we want to know what is meant by *a German*. The one thing that we do not want to do is to mistake a rhinoceros for a gazelle, because those who do so seldom survive to make use of their experience.

From national *moral* we next turn to military *moral*, and try to discover what is the doctrine of discipline—that is, the mental and physical machinery used to convert the man into a soldier. Discipline should accentuate the virile national characteristics, and tone down the effeminate ones. Is it based on fear or comradeship ? Does it aim at cultivating initiative, or of subordinating the individual will, or in stamping it out ? When we turn to our campaign we shall see how the respective doctrines stood the test of war.

We have now discovered the factors which animate the armies, and so can turn to the mental sphere of force which controls the instrument.

Here the main problems centre round the general-in-chief. Is he a free agent, or is his will shackled by political control ? What are his reasons for his various moves, and do these reasons display originality and imagination ?

We have now completed the first phase of our study, and the next consists in an examination of the conditions the war was fought under. How far did each side appreciate the nature of conditions before the campaign started, and whilst the war was in progress ? Unless we grasp this we shall frequently be misled, and we shall seldom grasp it unless we carefully analyse what the conditions are, irrespectively of the actions they eventually influenced ; for the more we realize the true nature of these conditions the better are we able to appreciate the value of the actions fought.

The conditions of war having been analysed, correlated, and

surrounded by an atmosphere of reality—as far as in our imagination we can recreate the atmosphere which existed at the time the campaign was fought—we should next shovel our nine little elementary heaps into one heap and place it in position on the map. Then, in turn, we should play a game of Jekyll and Hyde. For half an hour we are Napoleon, for another half-hour Blücher. To play this game properly we must see and think, as far as we are able, as these generals saw and thought, and we cannot do so unless we understand their personalities.

Now as to the application of the principles of war. At first it may be thought that, as in many campaigns the contending commanders had little or no knowledge of the principles of war, if we are to play the parts of Jekyll and Hyde, how are we going to learn to apply them?

The fact is that, besides fulfilling this dual rôle, we have got to play a third part, the part of a disinterested critic and judge. We must remember that, though at the time in question the value of the principles of war may have been unknown to the opposing commanders, they, as truths, nevertheless existed, and that their unconscious application or violation resulted in success and failure, even if reasons for success or failure were not apparent at the time.

It is by discovering these reasons that we add to creative thought. We accomplish this by constantly asking ourselves the questions: What was the object of that move? What was the concentration of force attempted? What was its distribution and its direction? Thus at the battle of the Marne, Maunoury attempted to attack von Kluck's right wing. Why did he do this? Would not an attack on the left wing, or a holding attack by frontal pressure, have been more effective? Each must be weighed against the existing conditions—ground, *moral*, position of other troops and communications, etc. Then to each alternative objective we must apply the three physical principles of war; this will give us the outlines of a series of possible strategical and tactical actions. We must then paint in the detail by applying the three moral principles and the three mental principles of war, and so obtain a series of finished pictures or plans. How are we to judge which of these is the best? By turning to the law of economy of force and calculating which will require the least expenditure of force in the gaining.

We must not for a moment imagine that the most economical expenditure means the plan which will require the least number of soldiers or weapons, for this is not necessarily the case. Normally it is by concentrating strength that economy is effected, for a big military balance enables us to expend this strength

economically at the decisive point. The most vulnerable points are those the capture of which will produce the greatest demoralization, first, in the command, and secondly, in the troops. When confronted by a genius like Napoleon, the decisive point of attack is the genius himself. Remove Napoleon from his command during the 1796 campaign and the probabilities are that the Austrians would have won the war.

Though such a removal is seldom possible, the fact to bear in mind is that all operations of war are directed against the enemy's command—the *man* behind the hostile battle-front. Thus ultimately we get back to our starting-point, namely one man.

Unless we can think logically, though we may read the histories of a hundred campaigns and discover thousands of facts, not one may be true. If we desire to derive the greatest benefit from our study of military history, once we have completed the analysis of any campaign, we should project our deductions into the future, and consider their values with reference to the most probable conditions in which the next war will be fought.

#### 4. THE APPLICATION OF THE METHOD TO PLANS AND PROBLEMS

I will now turn to the question of plans and problems ; both can be considered together.

Firstly : We must make certain of our object, or of the purpose of a problem, and whatever we do, we must always refer back to this object or purpose.

Secondly : We must discover the values of our own means and the enemy's by analysing them and deducing the initial power of each element. From these deductions we shall be able to discover the predominant characteristics and limitations of the two instruments.

Thirdly : We must examine the conditions of war and see how they can assist and resist us, and how, on account of their assistance or resistance, the elements in the instruments are transformed.

Fourthly : We must look upon our enemy as a bold and intelligent antagonist who will make the utmost use of his means as influenced by the conditions which will assist him and resist us.

Fifthly : We must apply the principles of war to the enemy's means as influenced by conditions.

Sixthly : We must work out a concise plan, or plans, of action for the enemy.

Seventhly : Bearing in mind the possible moves the enemy may

make, we must apply the principles of war to our own means as influenced by conditions and work out a plan whereby we hope that we can defeat the enemy, and a series of plans whereby we can frustrate the probable moves of the enemy should he gain the initiative.

Eighthly : We must decide on the distribution of our force.

#### 5. MAXIM FOR THE IGNORANT

It is during peace-time that we prepare for war, and, unless our preparation is systematic, unless it is based on some science of war, whether the one I have outlined or some other, for the ignorant—and all are ignorant who do not co-ordinate knowledge—there is one great maxim which throughout the history of war has more often than not proved successful, and this maxim is : “When in doubt, hit out.” When the soldier, whether private or general, does not know what to do, he must strike ; he must not stand still, for normally it is better to strike and fail than it is to sit still and be thrashed. Therefore I will end this book with a saying of Napoleon’s which I have already quoted.

*“The whole art of war consists in a well-reasoned and extremely circumspect defensive, followed by rapid and audacious attack.”*

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