VI

WAR

In shaping anticipations of the future of war there arises a certain difficulty about the point of departure. One may either begin upon such broad issues as the preceding forecasts have opened, and having determined now something of the nature of the coming State and the force of its warlike inclination, proceed to speculate how this vast ill-organized fourfold organism will fight; or one may set all that matter aside for a space, and having regard chiefly to the continually more potent appliances physical science offers the soldier, we may try to develop a general impression of theoretically thorough war, go from that to the nature of the State most likely to be superlatively efficient in such warfare, and so arrive at the conditions of survival under which these present governments of confusion will struggle one against the other. The latter course will be taken here. We will deal first of all with war conducted for its own sake, with a model army, as efficient as an imaginative training can make it, and with a model organization for warfare of the State behind it, and then the experience of the confused modern social organism as it is impelled, in an uncongenial metamorphosis, towards this imperative and finally unavoidable efficient state, will come most easily within the scope of one's imagination.

The great change that is working itself out in warfare is the same change that is working itself out in the substance of the social fabric. The essential change in the social fabric, as we have analyzed it, is the progressive supersession of the old broad labour base by elaborately organized mechanism, and the obsolescence of the once valid and necessary distinction of gentle and simple. In warfare, as I have already indicated, this takes the form of the progressive supersession of the horse and the private soldier--which were the living and sole engines of the old time--by machines, and the obliteration of the old distinction between leaders, who pranced in a conspicuously dangerous and encouraging way into the picturesque incidents of battle, and the led, who cheered and charged and filled the ditches and were slaughtered in a wholesale dramatic manner. The old war was a matter of long dreary marches, great hardships of campaigning, but also of heroic conclusive moments. Long periods of campings--almost always with an outbreak of pestilence--of marchings and retreats, much crude business of feeding and forage, culminated at last, with an effect of infinite relief, in an hour or so of "battle." The battle was always a very intimate tumultuous affair, the men were flung at one another in vast excited masses, in living fighting machines as it were, spears or bayonets flashed, one side or the other ceased to prolong the climax, and the thing was over. The beaten force crumpled as a whole, and the victors as a whole pressed upon it. Cavalry with slashing sabres marked the crowning point of victory. In the later stages of the old warfare musketry volleys were added to the physical impact of the contending regiments, and at last cannon, as a quite accessory method of breaking

these masses of men. So you "gave battle" to and defeated your enemy's forces wherever encountered, and when you reached your objective in his capital the war was done.... The new war will probably have none of these features of the old system of fighting.

The revolution that is in progress from the old war to a new war, different in its entire nature from the old, is marked primarily by the steady progress in range and efficiency of the rifle and of the field-gun--and more particularly of the rifle. The rifle develops persistently from a clumsy implement, that any clown may learn to use in half a day, towards a very intricate mechanism, easily put out of order and easily misused, but of the most extraordinary possibilities in the hands of men of courage, character, and high intelligence. Its precision at long range has made the business of its care, loading and aim subsidiary to the far more intricate matter of its use in relation to the contour of the ground within its reach. Even its elaboration as an instrument is probably still incomplete. One can conceive it provided in the future with cross-thread telescopic sights, the focussing of which, corrected by some ingenious use of hygroscopic material, might even find the range, and so enable it to be used with assurance up to a mile or more. It will probably also take on some of the characters of the machine-gun. It will be used either for single shots or to quiver and send a spray of almost simultaneous bullets out of a magazine evenly and certainly, over any small area the rifleman thinks advisable. It will probably be portable by one man, but there is no reason really, except the bayonet tradition, the demands of which may be met in other ways,

why it should be the instrument of one sole man. It will, just as probably, be slung with its ammunition and equipment upon bicycle wheels, and be the common care of two or more associated soldiers. Equipped with such a weapon, a single couple of marksmen even, by reason of smokeless powder and carefully chosen cover, might make themselves practically invisible, and capable of surprising, stopping, and destroying a visible enemy in quite considerable numbers who blundered within a mile of them. And a series of such groups of marksmen so arranged as to cover the arrival of reliefs, provisions, and fresh ammunition from the rear, might hold out against any visible attack for an indefinite period, unless the ground they occupied was searched very ably and subtly by some sort of gun having a range in excess of their rifle fire. If the ground they occupied were to be properly tunnelled and trenched, even that might not avail, and there would be nothing for it but to attack them by an advance under cover either of the night or of darkness caused by smoke-shells, or by the burning of cover about their position. Even then they might be deadly with magazine fire at close quarters. Save for their liability to such attacks, a few hundreds of such men could hold positions of a quite vast extent, and a few thousand might hold a frontier. Assuredly a mere handful of such men could stop the most multitudinous attack or cover the most disorderly retreat in the world, and even when some ingenious, daring, and lucky night assault had at last ejected them from a position, dawn would simply restore to them the prospect of reconstituting in new positions their enormous advantage of defence.

The only really effective and final defeat such an attenuated force of marksmen could sustain, would be from the slow and circumspect advance upon it of a similar force of superior marksmen, creeping forward under cover of night or of smoke-shells and fire, digging pits during the snatches of cessation obtained in this way, and so coming nearer and nearer and getting a completer and completer mastery of the defender's ground until the approach of the defender's reliefs, food, and fresh ammunition ceased to be possible. Thereupon there would be nothing for it but either surrender or a bolt in the night to positions in the rear, a bolt that might be hotly followed if it were deferred too late.

Probably between contiguous nations that have mastered the art of war, instead of the pouring clouds of cavalry of the old dispensation,[37] this will be the opening phase of the struggle, a vast duel all along the frontier between groups of skilled marksmen, continually being relieved and refreshed from the rear. For a time quite possibly there will be no definite army here or there, there will be no controllable battle, there will be no Great General in the field at all. But somewhere far in the rear the central organizer will sit at the telephonic centre of his vast front, and he will strengthen here and feed there and watch, watch perpetually the pressure, the incessant remorseless pressure that is seeking to wear down his countervailing thrust. Behind the thin firing line that is actually engaged, the country for many miles will be rapidly cleared and devoted to the business of war, big machines will be at work making second, third, and fourth lines of trenches that may be needed if presently the firing line

is forced back, spreading out transverse paths for the swift lateral movement of the cyclists who will be in perpetual alertness to relieve sudden local pressures, and all along those great motor roads our first "Anticipations" sketched, there will be a vast and rapid shifting to and fro of big and very long range guns. These guns will probably be fought with the help of balloons. The latter will hang above the firing line all along the front, incessantly ascending and withdrawn; they will be continually determining the distribution of the antagonist's forces, directing the fire of continually shifting great guns upon the apparatus and supports in the rear of his fighting line, forecasting his night plans and seeking some tactical or strategic weakness in that sinewy line of battle.

It will be evident that such warfare as this inevitable precision of gun and rifle forces upon humanity, will become less and less dramatic as a whole, more and more as a whole a monstrous thrust and pressure of people against people. No dramatic little general spouting his troops into the proper hysterics for charging, no prancing merely brave officers, no reckless gallantry or invincible stubbornness of men will suffice. For the commander-in-chief on a picturesque horse sentimentally watching his "boys" march past to death or glory in battalions, there will have to be a loyal staff of men, working simply, earnestly, and subtly to keep the front tight, and at the front, every little isolated company of men will have to be a council of war, a little conspiracy under the able man its captain, as keen and individual as a football team, conspiring against the scarcely seen company of the foe over

yonder. The battalion commander will be replaced in effect by the organizer of the balloons and guns by which his few hundreds of splendid individuals will be guided and reinforced. In the place of hundreds of thousands of more or less drunken and untrained young men marching into battle--muddle-headed, sentimental, dangerous and futile hobbledehoys--there will be thousands of sober men braced up to their highest possibilities, intensely doing their best; in the place of charging battalions, shattering impacts of squadrons and wide harvest-fields of death, there will be hundreds of little rifle battles fought up to the hilt, gallant dashes here, night surprises there, the sudden sinister faint gleam of nocturnal bayonets, brilliant guesses that will drop catastrophic shell and death over hills and forests suddenly into carelessly exposed masses of men. For eight miles on either side of the firing lines--whose fire will probably never altogether die away while the war lasts--men will live and eat and sleep under the imminence of unanticipated death.... Such will be the opening phase of the war that is speedily to come.

And behind the thin firing line on either side a vast multitude of people will be at work; indeed, the whole mass of the efficients in the State will have to be at work, and most of them will be simply at the same work or similar work to that done in peace time--only now as combatants upon the lines of communication. The organized staffs of the big road managements, now become a part of the military scheme, will be deporting women and children and feeble people and bringing up supplies and supports; the doctors will be dropping from their civil duties into

pre-appointed official places, directing the feeding and treatment of the shifting masses of people and guarding the valuable manhood of the fighting apparatus most sedulously from disease;[38] the engineers will be entrenching and bringing up a vast variety of complicated and ingenious apparatus designed to surprise and inconvenience the enemy in novel ways; the dealers in food and clothing, the manufacturers of all sorts of necessary stuff, will be converted by the mere declaration of war into public servants; a practical realization of socialistic conceptions will quite inevitably be forced upon the fighting State. The State that has not incorporated with its fighting organization all its able-bodied manhood and all its material substance, its roads, vehicles, engines, foundries, and all its resources of food and clothing; the State which at the outbreak of war has to bargain with railway and shipping companies, replace experienced station-masters by inexperienced officers, and haggle against alien interests for every sort of supply, will be at an overwhelming disadvantage against a State which has emerged from the social confusion of the present time, got rid of every vestige of our present distinction between official and governed, and organized every element in its being.

I imagine that in this ideal war as compared with the war of to-day, there will be a very considerable restriction of the rights of the non-combatant. A large part of existing International Law involves a curious implication, a distinction between the belligerent government and its accredited agents in warfare and the general body of its subjects. There is a disposition to treat the belligerent government, in

spite of the democratic status of many States, as not fully representing its people, to establish a sort of world-citizenship in the common mass outside the official and military class. Protection of the non-combatant and his property comes at last--in theory at least--within a measurable distance of notice boards: "Combatants are requested to keep off the grass." This disposition I ascribe to a recognition of that obsolescence and inadequacy of the formal organization of States, which has already been discussed in this book. It was a disposition that was strongest perhaps in the earliest decades of the nineteenth century, and stronger now than, in the steady and irresistible course of strenuous and universal military preparation, it is likely to be in the future. In our imaginary twentieth century State, organized primarily for war, this tendency to differentiate a non-combatant mass in the fighting State will certainly not be respected, the State will be organized as a whole to fight as a whole, it will have triumphantly asserted the universal duty of its citizens. The military force will be a much ampler organization than the "army" of to-day, it will be not simply the fists but the body and brain of the land. The whole apparatus, the whole staff engaged in internal communication, for example, may conceivably not be State property and a State service, but if it is not it will assuredly be as a whole organized as a volunteer force, that may instantly become a part of the machinery of defence or aggression at the outbreak of war.[39] The men may very conceivably not have a uniform, for military uniforms are simply one aspect of this curious and transitory phase of restriction, but they will have their orders and their universal plan. As the bells ring and the recording telephones click into every house

the news that war has come, there will be no running to and fro upon the public ways, no bawling upon the moving platforms of the central urban nuclei, no crowds of silly useless able-bodied people gaping at inflammatory transparencies outside the offices of sensational papers because the egregious idiots in control of affairs have found them no better employment. Every man will be soberly and intelligently setting about the particular thing he has to do--even the rich shareholding sort of person, the hereditary mortgager of society, will be given something to do, and if he has learnt nothing else he will serve to tie up parcels of ammunition or pack army sausage. Very probably the best of such people and of the speculative class will have qualified as cyclist marksmen for the front, some of them may even have devoted the leisure of peace to military studies and may be prepared with novel weapons. Recruiting among the working classes--or, more properly speaking, among the People of the Abyss--will have dwindled to the vanishing point; people who are no good for peace purposes are not likely to be any good in such a grave and complicated business as modern war. The spontaneous traffic of the roads in peace, will fall now into two streams, one of women and children coming quietly and comfortably out of danger, the other of men and material going up to the front. There will be no panics, no hardships, because everything will have been amply pre-arranged--we are dealing with an ideal State. Quietly and tremendously that State will have gripped its adversary and tightened its muscles--that is all.

Now the strategy of this new sort of war in its opening phase will

consist mainly in very rapid movements of guns and men behind that thin screen of marksmen, in order to deal suddenly and unexpectedly some forcible blow, to snatch at some position into which guns and men may be thrust to outflank and turn the advantage of the ground against some portion of the enemy's line. The game will be largely to crowd and crumple that line, to stretch it over an arc to the breaking point, to secure a position from which to shell and destroy its supports and provisions, and to capture or destroy its guns and apparatus, and so tear it away from some town or arsenal it has covered. And a factor of primary importance in this warfare, because of the importance of seeing the board, a factor which will be enormously stimulated to develop in the future, will be the aerial factor. Already we have seen the captive balloon as an incidental accessory of considerable importance even in the wild country warfare of South Africa. In the warfare that will go on in the highly-organized European States of the opening century, the special military balloon used in conjunction with guns, conceivably of small calibre but of enormous length and range, will play a part of quite primary importance. These guns will be carried on vast mechanical carriages, possibly with wheels of such a size as will enable them to traverse almost all sorts of ground.[40] The aeronauts, provided with large scale maps of the hostile country, will mark down to the gunners below the precise point upon which to direct their fire, and over hill and dale the shell will fly--ten miles it may be--to its billet, camp, massing night attack, or advancing gun.

Great multitudes of balloons will be the Argus eyes of the entire

military organism, stalked eyes with a telephonic nerve in each stalk, and at night they will sweep the country with search-lights and come soaring before the wind with hanging flares. Certainly they will be steerable. Moreover, when the wind admits, there will be freely-moving steerable balloons wagging little flags to their friends below. And so far as the resources of the men on the ground go, the balloons will be almost invulnerable. The mere perforation of balloons with shot does them little harm, and the possibility of hitting a balloon that is drifting about at a practically unascertainable distance and height so precisely as to blow it to pieces with a timed shell, and to do this in the little time before it is able to give simple and precise instructions as to your range and position to the unseen gunners it directs, is certainly one of the most difficult and trying undertakings for an artilleryman that one can well imagine. I am inclined to think that the many considerations against a successful attack on balloons from the ground, will enormously stimulate enterprise and invention in the direction of dirigible aerial devices that can fight. Few people, I fancy, who know the work of Langley, Lilienthal, Pilcher, Maxim, and Chanute, but will be inclined to believe that long before the year A.D. 2000, and very probably before 1950, a successful aeroplane will have soared and come home safe and sound. Directly that is accomplished the new invention will be most assuredly applied to war.

The nature of the things that will ultimately fight in the sky is a matter for curious speculation. We begin with the captive balloon. Against that the navigable balloon will presently operate. I am inclined

to think the practicable navigable balloon will be first attained by the use of a device already employed by Nature in the swimming-bladder of fishes. This is a closed gas-bag that can be contracted or expanded. If a gas-bag of thin, strong, practically impervious substance could be enclosed in a net of closely interlaced fibres (interlaced, for example, on the pattern of the muscles of the bladder in mammals), the ends of these fibres might be wound and unwound, and the effect of contractility attained. A row of such contractile balloons, hung over a long car which was horizontally expanded into wings, would not only allow that car to rise and fall at will, but if the balloon at one end were contracted and that at the other end expanded, and the intermediate ones allowed to assume intermediate conditions, the former end would drop, the expanded wings would be brought into a slanting condition over a smaller area of supporting air, and the whole apparatus would tend to glide downwards in that direction. The projection of a small vertical plane upon either side would make the gliding mass rotate in a descending spiral, and so we have all the elements of a controllable flight. Such an affair would be difficult to overset. It would be able to beat up even in a fair wind, and then it would be able to contract its bladders and fall down a long slant in any direction. From some such crude beginning a form like a soaring, elongated, flat-brimmed hat might grow, and the possibilities of adding an engine-driven screw are obvious enough.

It is difficult to see how such a contrivance could carry guns of any calibre unless they fired from the rear in the line of flight. The problem of recoil becomes a very difficult one in aerial tactics. It

would probably have at most a small machine-gun or so, which might fire an explosive shell at the balloons of the enemy, or kill their aeronauts with distributed bullets. The thing would be a sort of air-shark, and one may even venture to picture something of the struggle the deadlocked marksmen of 1950, lying warily in their rifle-pits, will see.

One conceives them at first, each little hole with its watchful, well-equipped couple of assassins, turning up their eyes in expectation. The wind is with our enemy, and his captive balloons have been disagreeably overhead all through the hot morning. His big guns have suddenly become nervously active. Then, a little murmur along the pits and trenches, and from somewhere over behind us, this air-shark drives up the sky. The enemy's balloons splutter a little, retract, and go rushing down, and we send a spray of bullets as they drop. Then against our aerostat, and with the wind driving them clean overhead of us, come the antagonistic flying-machines. I incline to imagine there will be a steel prow with a cutting edge at either end of the sort of aerostat I foresee, and conceivably this aerial ram will be the most important weapon of the affair. When operating against balloons, such a fighting-machine will rush up the air as swiftly as possible, and then, with a rapid contraction of its bladders, fling itself like a knife at the sinking war-balloon of the foe. Down, down, down, through a vast alert tension of flight, down it will swoop, and, if its stoop is successful, slash explosively at last through a suffocating moment. Rifles will crack, ropes tear and snap; there will be a rending and shouting, a great thud of liberated gas, and perhaps a flare. Quite

certainly those flying machines will carry folded parachutes, and the last phase of many a struggle will be the desperate leap of the aeronauts with these in hand, to snatch one last chance of life out of a mass of crumpling, fallen wreckage.

But in such a fight between flying-machine and flying-machine as we are trying to picture, it will be a fight of hawks, complicated by bullets and little shells. They will rush up and up to get the pitch of one another, until the aeronauts sob and sicken in the rarefied air, and the blood comes to eyes and nails. The marksmen below will strain at last, eyes under hands, to see the circling battle that dwindles in the zenith. Then, perhaps, a wild adventurous dropping of one close beneath the other, an attempt to stoop, the sudden splutter of guns, a tilting up or down, a disengagement. What will have happened? One combatant, perhaps, will heel lamely earthward, dropping, dropping, with half its bladders burst or shot away, the other circles down in pursuit.... "What are they doing?" Our marksmen will snatch at their field-glasses, tremulously anxious, "Is that a white flag or no?... If they drop now we have 'em!"

But the duel will be the rarer thing. In any affair of ramming there is an enormous advantage for the side that can contrive, anywhere in the field of action, to set two vessels at one. The mere ascent of one flying-ram from one side will assuredly slip the leashes of two on the other, until the manoeuvring squadrons may be as thick as starlings in October. They will wheel and mount, they will spread and close, there

will be elaborate manoeuvres for the advantage of the wind, there will be sudden drops to the shelter of entrenched guns. The actual impact of battle will be an affair of moments. They will be awful moments, but not more terrible, not more exacting of manhood than the moments that will come to men when there is--and it has not as yet happened on this earth--equal fighting between properly manned and equipped ironclads at sea. (And the well-bred young gentlemen of means who are privileged to officer the British Army nowadays will be no more good at this sort of thing than they are at controversial theology or electrical engineering or anything else that demands a well-exercised brain.)...

Once the command of the air is obtained by one of the contending armies, the war must become a conflict between a seeing host and one that is blind. The victor in that aerial struggle will tower with pitilessly watchful eyes over his adversary, will concentrate his guns and all his strength unobserved, will mark all his adversary's roads and communications, and sweep them with sudden incredible disasters of shot and shell. The moral effect of this predominance will be enormous. All over the losing country, not simply at his frontier but everywhere, the victor will soar. Everybody everywhere will be perpetually and constantly looking up, with a sense of loss and insecurity, with a vague stress of painful anticipations. By day the victor's aeroplanes will sweep down upon the apparatus of all sorts in the adversary's rear, and will drop explosives and incendiary matters upon them,[41] so that no apparatus or camp or shelter will any longer be safe. At night his high floating search-lights will go to and fro and discover and check every

desperate attempt to relieve or feed the exhausted marksmen of the fighting line. The phase of tension will pass, that weakening opposition will give, and the war from a state of mutual pressure and petty combat will develop into the collapse of the defensive lines. A general advance will occur under the aerial van, ironclad road fighting-machines may perhaps play a considerable part in this, and the enemy's line of marksmen will be driven back or starved into surrender, or broken up and hunted down. As the superiority of the attack becomes week by week more and more evident, its assaults will become more dashing and far-reaching. Under the moonlight and the watching balloons there will be swift noiseless rushes of cycles, precipitate dismounts, and the never-to-be-quite-abandoned bayonet will play its part. And now men on the losing side will thank God for the reprieve of a pitiless wind, for lightning, thunder, and rain, for any elemental disorder that will for a moment lift the descending scale! Then, under banks of fog and cloud, the victorious advance will pause and grow peeringly watchful and nervous, and mud-stained desperate men will go splashing forward into an elemental blackness, rain or snow like a benediction on their faces, blessing the primordial savagery of nature that can still set aside the wisest devices of men, and give the unthrifty one last desperate chance to get their own again or die.

Such adventures may rescue pride and honour, may cause momentary dismay in the victor and palliate disaster, but they will not turn back the advance of the victors, or twist inferiority into victory. Presently the advance will resume. With that advance the phase of indecisive contest

will have ended, and the second phase of the new war, the business of forcing submission, will begin. This should be more easy in the future even than it has proved in the past, in spite of the fact that central governments are now elusive, and small bodies of rifle-armed guerillas far more formidable than ever before. It will probably be brought about in a civilized country by the seizure of the vital apparatus of the urban regions--the water supply, the generating stations for electricity (which will supply all the heat and warmth of the land), and the chief ways used in food distribution. Through these expedients, even while the formal war is still in progress, an irresistible pressure upon a local population will be possible, and it will be easy to subjugate or to create afresh local authorities, who will secure the invader from any danger of a guerilla warfare upon his rear. Through that sort of an expedient an even very obdurate loser will be got down to submission, area by area. With the destruction of its military apparatus and the prospective loss of its water and food supply, however, the defeated civilized State will probably be willing to seek terms as a whole, and bring the war to a formal close.

In cases where, instead of contiguous frontiers, the combatants are separated by the sea, the aerial struggle will probably be preceded or accompanied by a struggle for the command of the sea. Of this warfare there have been many forecasts. In this, as in all the warfare of the coming time, imaginative foresight, a perpetual alteration of tactics, a perpetual production of unanticipated devices, will count enormously. Other things being equal, victory will rest with the force mentally most

active. What type of ship may chance to be prevalent when the great naval war comes is hard guessing, but I incline to think that the naval architects of the ablest peoples will concentrate more and more upon speed and upon range and penetration, and, above all, upon precision of fire. I seem to see a light type of ironclad, armoured thickly only over its engines and magazines, murderously equipped, and with a ram--as alert and deadly as a striking snake. In the battles of the open she will have little to fear from the slow fumbling treacheries of the submarine, she will take as little heed of the chance of a torpedo as a barefooted man in battle does of the chance of a fallen dagger in his path. Unless I know nothing of my own blood, the English and Americans will prefer to catch their enemies in ugly weather or at night, and then they will fight to ram. The struggle on the high seas between any two naval powers (except, perhaps, the English and American, who have both quite unparalleled opportunities for coaling) will not last more than a week or so. One or other force will be destroyed at sea, driven into its ports and blockaded there, or cut off from its supply of coal (or other force-generator), and hunted down to fight or surrender. An inferior fleet that tries to keep elusively at sea will always find a superior fleet between itself and coal, and will either have to fight at once or be shot into surrender as it lies helpless on the water. Some commerce-destroying enterprise on the part of the loser may go on, but I think the possibilities of that sort of thing are greatly exaggerated. The world grows smaller and smaller, the telegraph and telephone go everywhere, wireless telegraphy opens wider and wider possibilities to the imagination, and how the commerce-destroyer is to go on for long

without being marked down, headed off, cut off from coal, and forced to fight or surrender, I do not see. The commerce-destroyer will have a very short run; it will have to be an exceptionally good and costly ship in the first place, it will be finally sunk or captured, and altogether I do not see how that sort of thing will pay when once the command of the sea is assured. A few weeks will carry the effective frontier of the stronger power up to the coast-line of the weaker, and permit of the secure resumption of the over-sea trade of the former. And then will open a second phase of naval warfare, in which the submarine may play a larger part.

I must confess that my imagination, in spite even of spurring, refuses to see any sort of submarine doing anything but suffocate its crew and founder at sea. It must involve physical inconvenience of the most demoralizing sort simply to be in one for any length of time. A first-rate man who has been breathing carbonic acid and oil vapour under a pressure of four atmospheres becomes presently a second-rate man. Imagine yourself in a submarine that has ventured a few miles out of port, imagine that you have headache and nausea, and that some ship of the Cobra type is flashing itself and its search-lights about whenever you come up to the surface, and promptly tearing down on your descending bubbles with a ram, trailing perhaps a tail of grapples or a net as well. Even if you get their boat, these nicely aerated men you are fighting know they have a four to one chance of living; while for your submarine to be "got" is certain death. You may, of course, throw out a torpedo or so, with as much chance of hitting vitally as you would have

if you were blindfolded, turned round three times, and told to fire revolver-shots at a charging elephant. The possibility of sweeping for a submarine with a seine would be vividly present in the minds of a submarine crew. If you are near shore you will probably be near rocks--an unpleasant complication in a hurried dive. There would, probably, very soon be boats out too, seeking with a machine-gun or pompom for a chance at your occasionally emergent conning-tower. In no way can a submarine be more than purblind, it will be, in fact, practically blind. Given a derelict ironclad on a still night within sight of land, a carefully handled submarine might succeed in groping its way to it and destroying it; but then it would be much better to attack such a vessel and capture it boldly with a few desperate men on a tug. At the utmost the submarine will be used in narrow waters, in rivers, or to fluster or destroy ships in harbour or with poor-spirited crews--that is to say, it will simply be an added power in the hands of the nation that is predominant at sea. And, even then, it can be merely destructive, while a sane and high-spirited fighter will always be dissatisfied if, with an indisputable superiority of force, he fails to take.[42]

No; the naval warfare of the future is for light, swift ships, almost recklessly not defensive and with splendid guns and gunners. They will hit hard and ram, and warfare which is taking to cover on land will abandon it at sea. And the captain, and the engineer, and the gunner will have to be all of the same sort of men: capable, headlong men, with brains and no ascertainable social position. They will differ from the

officers of the British Navy in the fact that the whole male sex of the nation will have been ransacked to get them. The incredible stupidity that closes all but a menial position in the British Navy to the sons of those who cannot afford to pay a hundred a year for them for some years, necessarily brings the individual quality of the British naval officer below the highest possible, quite apart from the deficiencies that must exist on account of the badness of secondary education in England. The British naval officer and engineer are not made the best of, good as they are, indisputably they might be infinitely better both in quality and training. The smaller German navy, probably, has an ampler pick of men relatively, is far better educated, less confident, and more strenuous. But the abstract navy I am here writing of will be superior to either of these, and like the American, in the absence of any distinction between officers and engineers. The officer will be an engineer.

The military advantages of the command of the sea will probably be greater in the future than they have been in the past. A fleet with aerial supports would be able to descend upon any portion of the adversary's coast it chose, and to dominate the country inland for several miles with its gun-fire. All the enemy's sea-coast towns would be at its mercy. It would be able to effect landing and send raids of cyclist-marksmen inland, whenever a weak point was discovered. Landings will be enormously easier than they have ever been before. Once a wedge of marksmen has been driven inland they would have all the military advantages of the defence when it came to eject them. They might, for

example, encircle and block some fortified post, and force costly and disastrous attempts to relieve it. The defensive country would stand at bay, tethered against any effective counter-blow, keeping guns, supplies, and men in perpetual and distressing movement to and fro along its sea-frontiers. Its soldiers would get uncertain rest, irregular feeding, unhealthy conditions of all sorts in hastily made camps. The attacking fleet would divide and re-unite, break up and vanish, amazingly reappear. The longer the defender's coast the more wretched his lot. Never before in the world's history was the command of the sea worth what it is now. But the command of the sea is, after all, like military predominance on land, to be insured only by superiority of equipment in the hands of a certain type of man, a type of man that it becomes more and more impossible to improvise, that a country must live for through many years, and that no country on earth at present can be said to be doing its best possible to make.

All this elaboration of warfare lengthens the scale between theoretical efficiency and absolute unpreparedness. There was a time when any tribe that had men and spears was ready for war, and any tribe that had some cunning or emotion at command might hope to discount any little disparity in numbers between itself and its neighbour. Luck and stubbornness and the incalculable counted for much; it was half the battle not to know you were beaten, and it is so still. Even to-day, a great nation, it seems, may still make its army the plaything of its gentlefolk, abandon important military appointments to feminine intrigue, and trust cheerfully to the homesickness and essential modesty

of its influential people, and the simpler patriotism of its colonial dependencies when it comes at last to the bloody and wearisome business of "muddling through." But these days of the happy-go-lucky optimist are near their end. War is being drawn into the field of the exact sciences. Every additional weapon, every new complication of the art of war, intensifies the need of deliberate preparation, and darkens the outlook of a nation of amateurs. Warfare in the future, on sea or land alike, will be much more one-sided than it has ever been in the past, much more of a foregone conclusion. Save for national lunacy, it will be brought about by the side that will win, and because that side knows that it will win. More and more it will have the quality of surprise, of pitiless revelation. Instead of the seesaw, the bickering interchange of battles of the old time, will come swiftly and amazingly blow, and blow, and blow, no pause, no time for recovery, disasters cumulative and irreparable.

The fight will never be in practice between equal sides, never be that theoretical deadlock we have sketched, but a fight between the more efficient and the less efficient, between the more inventive and the more traditional. While the victors, disciplined and grimly intent, full of the sombre yet glorious delight of a grave thing well done, will, without shouting or confusion, be fighting like one great national body, the losers will be taking that pitiless exposure of helplessness in such a manner as their natural culture and character may determine. War for the losing side will be an unspeakable pitiable business. There will be first of all the coming of the war, the wave of excitement, the

belligerent shouting of the unemployed inefficients, the flag-waving, the secret doubts, the eagerness for hopeful news, the impatience of the warning voice. I seem to see, almost as if he were symbolic, the grey old general--the general who learnt his art of war away in the vanished nineteenth century, the altogether too elderly general with his epaulettes and decorations, his uniform that has still its historical value, his spurs and his sword--riding along on his obsolete horse, by the side of his doomed column. Above all things he is a gentleman. And the column looks at him lovingly with its countless boys' faces, and the boys' eyes are infinitely trustful, for he has won battles in the old time. They will believe in him to the end. They have been brought up in their schools to believe in him and his class, their mothers have mingled respect for the gentlefolk with the simple doctrines of their faith, their first lesson on entering the army was the salute. The "smart" helmets His Majesty, or some such unqualified person, chose for them, lie hotly on their young brows, and over their shoulders slope their obsolete, carelessly-sighted guns. Tramp, tramp, they march, doing what they have been told to do, incapable of doing anything they have not been told to do, trustful and pitiful, marching to wounds and disease, hunger, hardship, and death. They know nothing of what they are going to meet, nothing of what they will have to do; Religion and the Ratepayer and the Rights of the Parent working through the instrumentality of the Best Club in the World have kept their souls and minds, if not untainted, at least only harmlessly veneered, with the thinnest sham of training or knowledge. Tramp, tramp, they go, boys who will never be men, rejoicing patriotically in the nation that has thus

sent them forth, badly armed, badly clothed, badly led, to be killed in some avoidable quarrel by men unseen. And beside them, an absolute stranger to them, a stranger even in habits of speech and thought, and at any rate to be shot with them fairly and squarely, marches the subaltern--the son of the school-burking, shareholding class--a slightly taller sort of boy, as ill-taught as they are in all that concerns the realities of life, ignorant of how to get food, how to get water, how to keep fever down and strength up, ignorant of his practical equality with the men beside him, carefully trained under a clerical headmaster to use a crib, play cricket rather nicely, look all right whatever happens, believe in his gentility, and avoid talking "shop."... The major you see is a man of the world, and very pleasantly meets the grey general's eye. He is, one may remark by the way, something of an army reformer, without offence, of course, to the Court people or the Government people. His prospects--if only he were not going to be shot--are brilliant enough. He has written quite cleverly on the question of Recruiting, and advocated as much as twopence more a day and billiard rooms under the chaplain's control; he has invented a military bicycle with a wheel of solid iron that can be used as a shield; and a war correspondent and, indeed, any one who writes even the most casual and irresponsible article on military questions is a person worth his cultivating. He is the very life and soul of army reform, as it is known to the governments of the grey--that is to say, army reform without a single step towards a social revolution....

So the gentlemanly old general--the polished drover to the

shambles--rides, and his doomed column march by, in this vision that haunts my mind.

I cannot foresee what such a force will even attempt to do, against modern weapons. Nothing can happen but the needless and most wasteful and pitiful killing of these poor lads, who make up the infantry battalions, the main mass of all the European armies of to-day, whenever they come against a sanely-organized army. There is nowhere they can come in, there is nothing they can do. The scattered invisible marksmen with their supporting guns will shatter their masses, pick them off individually, cover their line of retreat and force them into wholesale surrenders. It will be more like herding sheep than actual fighting. Yet the bitterest and cruellest things will have to happen, thousands and thousands of poor boys will be smashed in all sorts of dreadful ways and given over to every conceivable form of avoidable hardship and painful disease, before the obvious fact that war is no longer a business for half-trained lads in uniform, led by parson-bred sixth-form boys and men of pleasure and old men, but an exhaustive demand upon very carefully-educated adults for the most strenuous best that is in them, will get its practical recognition.[43]...

Well, in the ampler prospect even this haunting tragedy of innumerable avoidable deaths is but an incidental thing. They die, and their troubles are over. The larger fact after all is the inexorable tendency in things to make a soldier a skilled and educated man, and to link him, in sympathy and organization, with the engineer and the doctor, and all

the continually developing mass of scientifically educated men that the advance of science and mechanism is producing. We are dealing with the inter-play of two world-wide forces, that work through distinctive and contrasted tendencies to a common end. We have the force of invention insistent upon a progress of the peace organization, which tends on the one hand to throw out great useless masses of people, the People of the Abyss, and on the other hand to develop a sort of adiposity of functionless wealthy, a speculative elephantiasis, and to promote the development of a new social order of efficients, only very painfully and slowly, amidst these growing and yet disintegrating masses. And on the other hand we have the warlike drift of such a social body, the inevitable intensification of international animosities in such a body, the absolute determination evident in the scheme of things to smash such a body, to smash it just as far as it is such a body, under the hammer of war, that must finally bring about rapidly and under pressure the same result as that to which the peaceful evolution slowly tends. While we are as yet only thinking of a physiological struggle, of complex reactions and slow absorptions, comes War with the surgeon's knife. War comes to simplify the issue and line out the thing with knife-like cuts.

The law that dominates the future is glaringly plain. A people must develop and consolidate its educated efficient classes or be beaten in war and give way upon all points where its interests conflict with the interests of more capable people. It must foster and accelerate that natural segregation, which has been discussed in the third and fourth

chapters of these "Anticipations," or perish. The war of the coming time will really be won in schools and colleges and universities, wherever men write and read and talk together. The nation that produces in the near future the largest proportional development of educated and intelligent engineers and agriculturists, of doctors, schoolmasters, professional soldiers, and intellectually active people of all sorts; the nation that most resolutely picks over, educates, sterilizes, exports, or poisons its People of the Abyss; the nation that succeeds most subtly in checking gambling and the moral decay of women and homes that gambling inevitably entails; the nation that by wise interventions, death duties and the like, contrives to expropriate and extinguish incompetent rich families while leaving individual ambitions free; the nation, in a word, that turns the greatest proportion of its irresponsible adiposity into social muscle, will certainly be the nation that will be the most powerful in warfare as in peace, will certainly be the ascendant or dominant nation before the year 2000. In the long run no heroism and no accidents can alter that. No flag-waving, no patriotic leagues, no visiting of essentially petty imperial personages hither and thither, no smashing of the windows of outspoken people nor seizures of papers and books, will arrest the march of national defeat. And this issue is already so plain and simple, the alternatives are becoming so pitilessly clear, that even in the stupidest court and the stupidest constituencies, it must presently begin in some dim way to be felt. A time will come when so many people will see this issue clearly that it will gravely affect political and social life. The patriotic party--the particular gang, that is, of lawyers, brewers, landlords, and

railway directors that wishes to be dominant--will be forced to become an efficient party in profession at least, will be forced to stimulate and organize that educational and social development that may at last even bring patriotism under control. The rulers of the grey, the democratic politician and the democratic monarch, will be obliged year by year by the very nature of things to promote the segregation of colours within the grey, to foster the power that will finally supersede democracy and monarchy altogether, the power of the scientifically educated, disciplined specialist, and that finally is the power of saints, the power of the thing that is provably right. It may be delayed, but it cannot be defeated; in the end it must arrive--if not to-day and among our people, then to-morrow and among another people, who will triumph in our overthrow. This is the lesson that must be learnt, that some tongue and kindred of the coming time must inevitably learn. But what tongue it will be, and what kindred that will first attain this new development, opens far more complex and far less certain issues than any we have hitherto considered.

FOOTNOTES:

[37] Even along such vast frontiers as the Russian and Austrian, for example, where M. Bloch anticipates war will be begun with an invasion of clouds of Russian cavalry and great cavalry battles, I am inclined to think this deadlock of essentially defensive marksmen may still be the more probable thing. Small bodies of cyclist riflemen would rush forward to meet the advancing clouds of cavalry, would drop into invisible

ambushes, and announce their presence--in unknown numbers--with carefully aimed shots difficult to locate. A small number of such men could always begin their fight with a surprise at the most advantageous moment, and they would be able to make themselves very deadly against a comparatively powerful frontal attack. If at last the attack were driven home before supports came up to the defenders, they would still be able to cycle away, comparatively immune. To attempt even very wide flanking movements against such a snatched position would be simply to run risks of blundering upon similar ambushes. The clouds of cavalry would have to spread into thin lines at last and go forward with the rifle. Invading clouds of cyclists would be in no better case. A conflict of cyclists against cyclists over a country too spacious for unbroken lines, would still, I think, leave the struggle essentially unchanged. The advance of small unsupported bodies would be the wildest and most unprofitable adventure; every advance would have to be made behind a screen of scouts, and, given a practical equality in the numbers and manhood of the two forces, these screens would speedily become simply very attenuated lines.

[38] So far, pestilence has been a feature of almost every sustained war in the world, but there is really no reason whatever why it should be so. There is no reason, indeed, why a soldier upon active service on the victorious side should go without a night's rest or miss a meal. If he does, there is muddle and want of foresight somewhere, and that our hypothesis excludes.

[39] Lady Maud Rolleston, in her very interesting Yeoman Service, complains of the Boers killing an engine-driver during an attack on a train at Kroonstadt, "which was," she writes, "an abominable action, as he is, in law, a non-combatant." The implicit assumption of this complaint would cover the engineers of an ironclad or the guides of a night attack, everybody, in fact, who was not positively weapon in hand.

[40] Experiments will probably be made in the direction of armoured guns, armoured search-light carriages, and armoured shelters for men, that will admit of being pushed forward over rifle-swept ground. To such possibilities, to possibilities even of a sort of land ironclad, my inductive reason inclines; the armoured train seems indeed a distinct beginning of this sort of thing, but my imagination proffers nothing but a vision of wheels smashed by shells, iron tortoises gallantly rushed by hidden men, and unhappy marksmen and engineers being shot at as they bolt from some such monster overset. The fact of it is, I detest and fear these thick, slow, essentially defensive methods, either for land or sea fighting. I believe invincibly that the side that can go fastest and hit hardest will always win, with or without or in spite of massive defences, and no ingenuity in devising the massive defence will shake that belief.

[41] Or, in deference to the Rules of War, fire them out of guns of trivial carrying power.

[42] A curious result might very possibly follow a success of submarines

on the part of a naval power finally found to be weaker and defeated. The victorious power might decide that a narrow sea was no longer, under the new conditions, a comfortable boundary line, and might insist on marking its boundary along the high-water mark of its adversary's adjacent coasts.

[43] There comes to hand as I correct these proofs a very typical illustration of the atmosphere of really almost imbecile patronage in which the British private soldier lives. It is a circular from some one at Lydd, some one who evidently cannot even write English, but who is nevertheless begging for an iron hut in which to inflict lessons on our soldiers. "At present," says this circular, "it is pretty to see in the Home a group of Gunners busily occupied in wool-work or learning basket-making, whilst one of their number sings or recites, and others are playing games or letter-writing, but even quite recently the members of the Bible Reading Union and one of the ladies might have been seen painfully crowded behind screens, choosing the 'Golden Text' with lowered voices, and trying to pray 'without distraction,' whilst at the other end of the room men were having supper, and halfway down a dozen Irish militia (who don't care to read, but are keen on a story) were gathered round another lady, who was telling them an amusing temperance tale, trying to speak so that the Bible readers should not hear her and yet that the Leinsters should was a difficulty, but when the Irishmen begged for a song--difficulty became impossibility, and their friend had to say, 'No.' Yet this is just the double work required in Soldiers' Homes, and above all at Lydd, where there is so little safe

amusement to be had in camp, and none in the village." These poor youngsters go from this "safe amusement" under the loving care of "lady workers," this life of limitation, make-believe and spiritual servitude that a self-respecting negro would find intolerable, into a warfare that exacts initiative and a freely acting intelligence from all who take part in it, under the bitterest penalties of shame and death. What can you expect of them? And how can you expect any men of capacity and energy, any men even of mediocre self-respect to knowingly place themselves under the tutelage of the sort of people who dominate these organized degradations? I am amazed the army gets so many capable recruits as it does. And while the private lives under these conditions, the would-be capable officer stifles amidst equally impossible surroundings. He must associate with the uneducated products of the public schools, and listen to their chatter about the "sports" that delight them, suffer social indignities from the "army woman," worry and waste money on needless clothes, and expect to end by being shamed or killed under some unfairly promoted incapable. Nothing illustrates the intellectual blankness of the British army better than its absolute dearth of military literature. No one would dream of gaining any profit by writing or publishing a book upon such a subject, for example, as mountain warfare in England, because not a dozen British officers would have the sense to buy such a book, and yet the British army is continually getting into scrapes in mountain districts. A few unselfish men like Major Peech find time to write an essay or so, and that is all. On the other hand, I find no less than five works in French on this subject in MM. Chapelet & Cie.'s list alone. On guerilla warfare again,

and after two years of South Africa, while there is nothing in English but some scattered papers by Dr. T. Miller Maguire, there are nearly a dozen good books in French. As a supplement to these facts is the spectacle of the officers of the Guards telegraphing to Sir Thomas Lipton on the occasion of the defeat of his Shamrock II., "Hard luck. Be of good cheer. Brigade of Guards wish you every success." This is not the foolish enthusiasm of one or two subalterns, it is collective. They followed that yacht race with emotion! is a really important thing to them. No doubt the whole mess was in a state of extreme excitement. How can capable and active men be expected to live and work between this upper and that nether millstone? The British army not only does not attract ambitious, energetic men, it repels them. I must confess that I see no hope either in the rulers, the traditions, or the manhood of the British regular army, to forecast its escape from the bog of ignorance and negligence in which it wallows. Far better than any of projected reforms would it be to let the existing army severely alone, to cease to recruit for it, to retain (at the expense of its officers, assisted perhaps by subscriptions from ascendant people like Sir Thomas Lipton) its messes, its uniforms, its games, bands, entertainments, and splendid memories as an appendage of the Court, and to create, in absolute independence of it, battalions and batteries of efficient professional soldiers, without social prestige or social distinctions, without bands, dress uniforms, colours, chaplains or honorary colonels, and to embody these as a real marching army perpetually en route throughout the empire--a reading, thinking, experimenting army under an absolutely distinct war office, with its own colleges, depôts and training camps

perpetually ready for war. I cannot help but think that, if a hint were taken from the Turbinia syndicate, a few enterprising persons of means and intelligence might do much by private experiment to supplement and replace the existing state of affairs.