BATTLE

Part XVIII—Artillery Fire

by Charles Grant

HAVING MENTIONED very briefly in the previous Part the artillery Forward Observation Officer and his radio contact with the guns he controls, we shall for the time being continue on this line and say something about the use of field artillery in the wargame and elaborate a little on the notes given in Part V on the use of field guns in action.

It may be remembered that we decided to consider only field artillery, which had an actual range representing an unlimited distance on the normal wargame table. I refer particularly to field guns—a good example being the British 25-pounder—because I feel that in our type of game which, generally speaking, is designed to revolve round nothing larger than encounters at battalion level—or maybe less—we are not likely to have to consider the bigger stuff—medium guns such as the 5.5 in. or the 155 mm. and so on. As far as we need envisage it, the role of artillery is that of offering immediate and close tactical support, such as might be called for by the commander of a battalion group when an attack he is attempting to mount has stalled for some reason or another, or he is obliged to 'winkle' stubborn opposition out of a previously prepared defensive position.

First, as we have earlier pointed out, with a wargame range averaging something like 12,000 yards—the equivalent of 30 feet (!) in our scale—the guns need not be physically on the table, but may be located in some theoretical position to the rear of one's base line and their fire directed by one's F.O.O.—who naturally would have to be actually present—by map references, bearings and so on. Obviously though, if the playing area is of any size at all—and even if it is not—the keen player will almost always wish to have the satisfaction of seeing his guns in battery, plugging away steadily at the enemy. If your adversary's own F.O.O. should perchance be daring or fortunate enough to get a look at your guns and plot their position, he—the opposing wargamer—may well descend to such a base practice as laying down counter-battery fire on your cherished field guns. This is a contingency which must be faced, but even so it is better fun and more exciting to have to watch for such a threat and when necessary to take the appropriate action to counter it.

Anyway, a few words about the technique employed by artillerymen to get their guns into action on a particular target, this not being materially different whether fire was direct—i.e. the target was actually visible to the gunners themselves—or whether it could be seen only by the F.O.O. who directed the fire by radio. Modern guns—and in the present context I mean those of 1939-45—are very accurate compared with weapons of former years, but even so, despite improvements in the standards of ordnance and ammunition, there were imperfections, and direct hits were far from being inevitable. What is done is really a simple sort of thing, and by no means a modern idea. It is termed 'bracketing', which means that the first 'ranging' shot would be a deliberate 'overshoot' and the second an equally deliberate 'undershoot'. Calculations would be made to correct the two extreme errors and the third shot would, theoretically, be bang on the target. However, even in this day and age, nothing is without flaw and few shells ever fall precisely where they are supposed to land, and even when a target has been properly ranged there can be errors, due to minute differences in the charge, atmospheric conditions and so on.

This procedure is reproduced in the wargame in almost exactly the same way as for mortar ranging as we described it in Part XIV. The player, having decided that shell fire is called for upon some particular target, and provided it is visible either to his gunners or to the F.O.O., throws one die for the 'ranging' throw. If he gets 5 or 6, he has obtained the correct range with his first round and now has to determine whether it was a direct hit, or if not, just how close it was to the Point of Aim. To do this we employ yet another 'device', a simple one, again constructed from the ever useful perspex or acetate sheet (I don't know what we should do without the stuff!). The idea is similar to that governing the mortar fire device but with one important difference. The explosion area of a mortar bomb—which more or less drops vertically—is roughly circular, but the shell fired from a gun is travelling at high speed, and its burst pattern is rather elongated—a sort of pear-shaped area in fact. I have no intention of inflicting the construction of a pear-shaped device upon the patient wargamer, and for the sake of simplicity we shall employ the device shown in the diagram. To simulate the elongated explosion areas in this piece of apparatus we use rectangles, each of which gives an area approximating to that of the shell burst. Obviously, longish ovals would be more accurate but the rectangles, I believe, will be found perfectly adequate. Each measures 3 in by $1\frac{1}{2}$ in., which is equivalent to 100 yards by 50 yards, or the maximum area 'beaten' by the explosion of one field artillery shell (for the present we shall not concern ourselves with differences between explosion areas of different types of field gun shell—let us content ourselves with this standard or average area).

To continue, then, the "burst area" relating to each round of shellfire is decided by dice throw—5 or 6 indicating the central rectangle (the equivalent of a direct hit), 1, 2, 3 and 4, the others as shown. When the 'ranging shot' has been successful, the device is placed with its centre on the Point of Aim and lined up

in the direction of fire (when guns are in action in an 'off the table' position their location would have to be determined in advance). The dice are thrown—if more than one gun is firing then as many dice as there are guns are thrown simultaneously. There will be differences in the fall of shot areas even when the guns are trained on the same target—as the dice fall, so do the shells.

Any personnel seen to be in the area shown by the dice throw must be reckoned to be possible casualties, and effect dice throws made accordingly. One die is thrown for each man, 4, 5 and 6 rating as casualties. If the throw shows 1, 2 or 3, then the chap is lucky enough to have escaped the blast. Depending upon the player's inclination, the throw for a 'team'—i.e. machine gun, bazooka or mortar, can be for the whole team or throws may be made for the individual members.

So far so good, then, we pass on to any vehicles which may be in the burst area. First, we deal with the soft-skinned type, by which I mean the truck, jeep or wagon with absolutely no pretensions to having any armour protection at all. They are obviously very vulnerable to high explosive shells. For convenience let us divide the possible effect into three stages—ranging from the maximum to the minimum. The first will of course be complete destruction, and the third will leave the vehicle untouched, with maybe a scar or two, but nothing to impede its function. The degree of damage will be determined by the customary dice

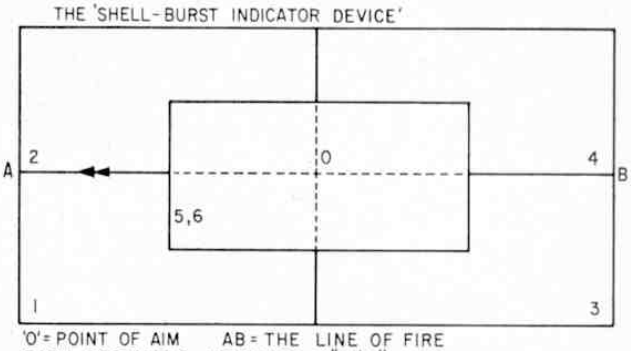
Target vehicle	Dice Throws		
	To destroy	To immobilise	No effect
Tank	—	5, 6	1, 2, 3, 4
Half-track or armoured car	6	4, 5	1, 2, 3
Soft-skinned	5, 6	3, 4	1, 2

throw, one for each vehicle. The attacking player throws his die—if he gets 5 or 6, happily for him, the target is totally destroyed, or if 1 or 2 be thrown, no damage has resulted and the truck, or whatever, goes merrily on its way. This leaves 3 and 4, a sort of intermediate degree of damage, not enough to destroy, but enough to ensure the immobilisation of the vehicle, while leaving it capable of being repaired—more of this at a later stage—and the personnel within unscathed. If the throw was 5 or 6, then any troops carried in the vehicle have to be considered as possible casualties. Dice throws of 4, 5 or 6 ensure their removal from the scene of operations as being no longer in shape to fight.

Now for the armoured chaps, and first the 'heavies', the tanks. Again we shall not attempt to make any difference between the various tanks in use in our game, but shall adopt one simple rule to cover all the varieties we shall commonly use—the German Mark IV, the Sherman, the T.34 and other tanks of roughly the same class. Completely to destroy any one of these in one fell swoop with a high explosive shell would really require an inordinate amount of luck, and to do so is

Our photo overpage shows a wargame 'town'—just about the size and type suitable for some hectic street fighting. Above right: The shell burst indicator. Right: Motorised infantry have just 'dismounted' preparatory to moving into built up area.

THE 'SHELL-BURST INDICATOR DEVICE'

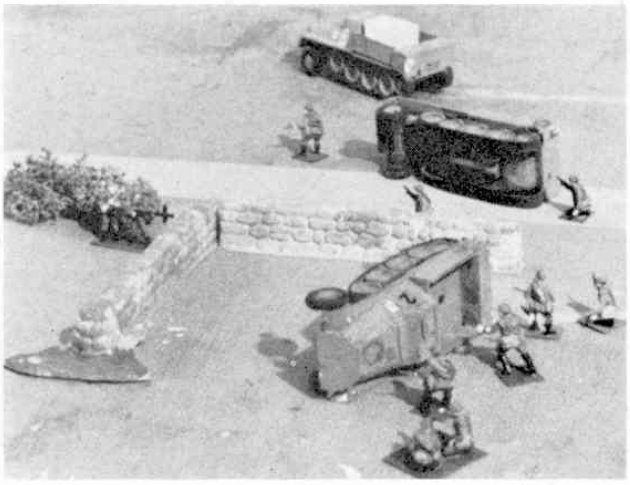


'0' = POINT OF AIM AB = THE LINE OF FIRE
EACH RECTANGLE MEASURES 3"x 1½"

not the easiest thing with long range fire. It did happen, of course, but only rarely, and certainly a 25-pounder shell bursting squarely on say a Mark IV would do it and its crew no good whatsoever. A near miss would also have a fairly good chance of rendering it unservicable by blowing off a track, for example, and this would have a much greater chance of happening. Indeed the likelihood of the first—the direct hit on an individual tank—is so small that it would be unfair at this stage to make a rule including this possibility. The chances of partial damage are far greater, and we shall reflect these in the rule which lays it down that, if the effect throw is 5 or 6, then the tank is immobilised (until it can be repaired). 1 to 4 have no effect. No separate dice throws are required for the crew of the stricken tank which, although rendered incapable of movement, is still fightable and can use its gun on any target in sight.

The third and final category of vehicle we have to consider is that which comes between the tanks and the soft-skinned lot, and this is comprised of such things as armoured half-trucks and armoured cars. For them we say that—if within the lethal area—they will be destroyed by a 6, immobilised by 4 and 5, and unaffected by 1, 2 or 3. Personnel in the half-tracks have to be thrown for if their vehicle is destroyed (as was done at "Twin Farms")—4, 5 or 6 sufficing to 'kill'. If the half-track is immobilised, the chaps within are O.K.

Briefly then, we recapitulate the procedure for artillery. First, we have the F.O.O. who races ahead of his guns and who, once he gets a target in his sights, radios its position back to his battery which opens fire. In wargame terms the player throws a die in an endeavour to get his 'ranging' shot—when this is obtained, the shell-burst device is placed on the target and a dice throw made to show the position of the shell burst. This is followed by effect throws for whatever, or whoever is in the relevant rectangle. This is a pretty straightforward process, and we need only summarise the necessary effect throws on the various types of target vehicle.



BATTLE
Part XIX

Artillery Organisation

by Charles Grant

GUNS HAVE to be organised in units and there is no reason why, in doing so, we should not adhere to the traditional unit, the battery. Obviously, what we are going to describe will not contain nearly as many pieces of artillery and transport vehicles as its real lift prototype, but our wargame battery will be scaled down to a size compatible with what we earlier decided was to be our infantry unit—the ' battalion ' of three infantry groups and a headquarters company. Experiment and much practice have shown that, in the scale we are using, the handiest unit for artillery is a battery built around two guns. This is so in two ways, in fact, first, as regards the relative volume of fire the battery delivers, and second, as far as it relates to the amount of space it occupies on the wargame table, both when actually engaged in firing in ' battery position ' and in the process of moving from place to place in column of route.

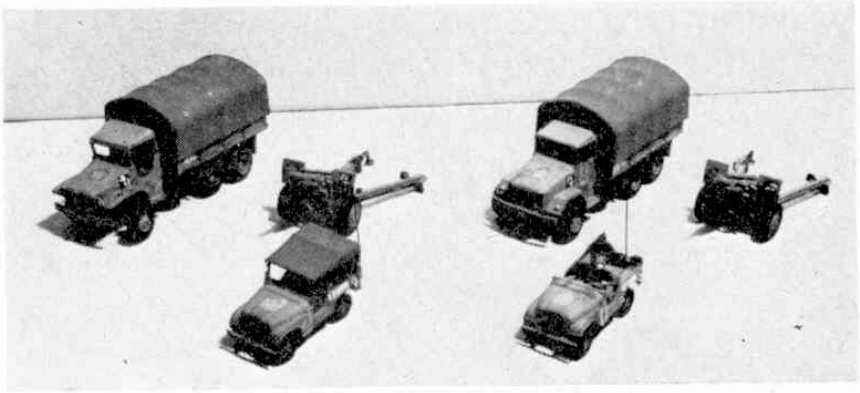
Although we are initially considering in this context a field battery, it might be as well to note that the organisation we shall detail applies generally to any other type of artillery, medium, heavy, or anti-tank. One further point before we continue—although this will become obvious—is that we are talking about towed artillary, self-propelled and assault guns coming in a different category.

As to the actual guns we use, several different types are available, and if I have chosen to employ those produced by one particular manufacturer, it is not to say that there are not other firms which make any number of excellent models. They do, but of them all, probably the Minitanks range is the most widely known, although it does have its limitations, particularly with regard to British ordnance—the celebrated 25-pounder being completely absent, for instance. If, however, the wargamer is prepared to stretch a point, he won't cavil too much if he finds that the opposing sides in a wargame are equipped largely with the same artillery material (these arms merchants have positively no scruples !). Indeed, if this be the case, no finger can be pointed at a player whose equipment, a defeated opponent might allege, has unfair advantages in the realms of power or range. So with this in mind we can make a start by saying that our field battery will be composed of the 105 mm. howitzer, an admirable gun in every way, and one which any army can employ without being tremendously anachronistic. Besides, the Minitanks version—this really is not a ' plug '—is a fine model in every respect.

It might be as well here if I say that I shall simplify matters by dealing with the organisation of one particular kind of unit, to be specific, my own field battery. This will be simply, because I know it best, and I must confess, it works a treat ! This basic setup will be suitable for any sort of kindred unit; simply substitute one's own guns—if they are other than those I employ, in fact—or different prime movers or towing vehicles —and one gets a standard sort of thing to suit one's own army with little, if any, alteration to the personnel.

So, given two 105 mm. howitzers ready for action, we have to provide them with crews. Now, it is obvious that the eight to ten men required to make the actual field gun operational will have to be scaled down, so, without going into a lot of detail, we do this simply by allocating to each gun a crew of four men. If desired—and this could, I suppose, be pretty important—one could be given the rank of N.C.O. or gun commander. This is a personal preference, but the man who really is essential, from the wargame point of view, is the battery commander, his presence having a very significant effect for two separate reasons, one—the effectiveness of the battery in action, and two—the consideration of morale, the vague quality which has such an effect on the performance of troops under fire, and of which we shall have much to say later. If the wargamer wishes, the battery commander will have his own command car, but rather than multiplying unnecessarily the number of vehicles in the battery, I may perhaps be forgiven a little economy if I accommodate him in the battery radio truck. This is not really illogical, as he would have to be in closest possible contact with the information being relayed to him by his Forward Observation Officer. The radio car could be the same type as that used for the Headquarters Company of our infantry battalion, but I don't think that such elaboration is strictly necessary. After all, the main radio channels in use are but two in number, that used by the F.O.O. and the one affording contact between the battery commander and the infantry with which he is associated, the infantry in fact to whom he affords artillery support. However, if the wargamer wants to have the ' pukka ' job and have a radio truck as such, then it's up to him. It could be said, of course, that, in addition to the two radio links just mentioned, a third—connecting with higher authority—might be necessary, but for the moment though let us stick to the two-channel command jeep which will then have, as personnel, the inevitable driver (fixed, of course), the radio operator and the battery commander.

Next, we have another very important part of the organisation—the Forward Observation Officer and his transport. Again we cannot do better than use a jeep for the latter—rather a different type this time, as one can see from the photograph. I have chosen to mount



The Ambush ! The heading photograph shows a close-up of the Panzerfaust attack detailed in the recent " Action at Twin Farms ". Right: The guns and vehicles of the field artillery battery. Note the machine gun mounted in the Forward Observation Officers' jeep.

a machine gun on it. This might be considered a bit of personal idiosyncracy, of course, and has no real justification other than the theory that the F.O.O. is probably going to be called upon to go zooming ahead into pretty close contact with the enemy, and might well need a little protective firepower. The M.G. operator could be a sort of co-driver, and the third occupant would naturally be the great man himself, the F.O.O. in person. It is doubtful whether a fourth man, say a reserve operator, could be accommodated in the jeep, much of which will be pretty well occupied with radio equipment. Furthermore, the F.O.O. in addition to the radio installed in the jeep, would certainly have his own portable transmitter. In many cases he would have to leave his transport concealed somewhere and carry on on foot, climbing to the top of a church tower or to the upper branches of a convenient tree to get a good view of what he was hoping to direct his guns on to, or lurking about the edge of a wood to the same end, to give but a couple of examples. All this plus the fact that his contact with his guns must be close and immediate and the fewer intermediaries the better—it is appallingly easy to make errors in the transmission of messages, even on the telephone and the closer the connection between the people who are transmitting or receiving the more efficient must be the communication. Thus, in the F.O.O.'s jeep, equipped as we see, with the antenna showing its function, we have the F.O.O. in person, the driver and the M.G. operator, all more or less lumped together with the mass of W/T apparatus.

So, to the jeeps and, of course, the guns we have to add only the gun tractors, the prime movers. There is a pretty wide range of vehicles we can employ in this role, and, as the photograph shows, my own choice is the 2½-ton truck. These serve a double purpose, in fact, to tow the guns and to carry ammunition and the crew. That the vehicles are soft-skinned need not cause great alarm—they are unlikely to come into close contact with the enemy with any frequency, and they have to stand the chance—not really very great—of being hit at long range by enemy counter battery fire.

The next point to be considered is the question of the mechanics of operating the guns and how long it takes to get them into action—the process, that is, of unlimbering and limbering up. This, even for a substantial piece of artillery such as a field gun, is a fairly rapid operation when carried out by a well-drilled crew, and naturally enough all of ours have been trained to a high degree of efficiency ! Take the unlimbering process first—with its gun bumping along behind it, the truck comes bombing up to the designated point where it is going to come into action, the gunners leap out, ' unhook '—for want of a better word—the gun from the truck, swing it into position, get a round of the appropriate type into the breech and await the gun layer's directions (it really is a more complicated business in actual fact—this is a description of the barest essentials and we assume that the battery commander has already a rough idea of the direction of fire—he merely awaits the accurate directions of his F.O.O.). All this would take a minute or less, and thus we consider it to occupy a complete move, and the unlimbering sequence might be as follows:

Move 1—Tractor moves up with gun to battery position.
Move 2—Gun unlimbered, in position.
Move 3—If directions available, gun opens fire—of course, if the target is visible, no radio directions are necessary.

The reverse also holds good.
Move 1—Tractor comes up to the gun.
Move 2—The gun is limbered up.
Move 3—Tractor moves off with gun.

We know the road and cross-country move for trucks, but this will naturally be affected by the weight of the gun which is being towed. Let us say then that a third of the normal speed is lost when the truck is acting as prime-mover and is towing a field gun. By this token, the moves are therefore: overland—4 in.; on roads—16 in.

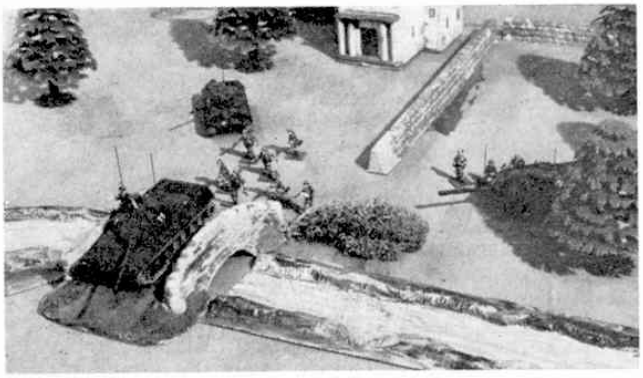
Let us conclude with one very important point. This is the question of how many men are basically necessary to fire the gun. It is hardly necessary to point out that even the minimum requirement involves quite a number—the shells must be carried from truck to gun, the charge selected, gun controls operated and so on. Casualties to the crew can reduce it to a point where there is not enough personnel to maintain the piece in action. Let us say then that to man the gun requires an absolute minimum of 50 per cent of the normal establishment, that is, in our wargame, two men. But with two men only, the gun would naturally be served more slowly than with the full complement, so we enact that in such circumstances, i.e., with but half the ordinary crew, the gun may fire only every other move. With less than two men, sad to say, it has to remain silent. There has to be a further restriction in that two men are required to carry out the limbering-up or indeed the unlimbering, but here it is fair to allow non-technical assistance. If the crew is reduced to one, and it is decided to limber up and get the gun away to a healthier spot, this may be done with the assistance of a passing infantryman, or anyone else who might happen to be about. When things are absolutely desperate and the battery is in dead trouble, no less a personnage than the battery commander might be called on to lend a hand. After all, it's a dreadful disgrace for gunners to lose their guns !

BATTLE

Part XX

Infantry H.Q. Company

by Charles Grant



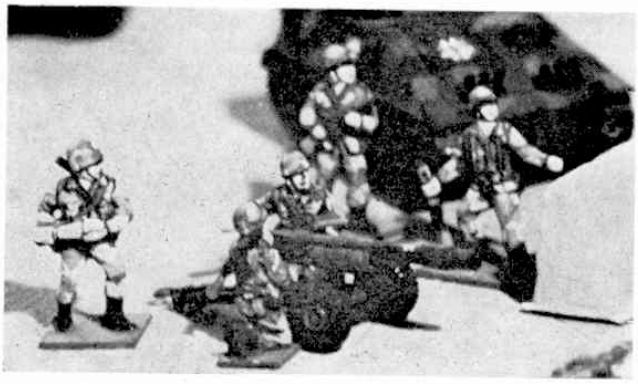
THIS WOULD seem to be an appropriate moment for completing the organisation of the Headquarters Company of our Motorised Infantry Battalion —it may be recalled that a beginning was made in Part XVII, wherein we started with the C.O.'s Command Car and the battalion radio truck. It is now incumbent upon us to add to this nucleus the various other sections necessary to establish the Headquarters Company as a viable fighting unit. Certain of these —and I make in advance due apology to them—are not really necessary for our purpose and can be dispensed with, at least for the time being. The reader could include, if he wishes, a Military Police or security section, but however essential this was in 'the real thing', I feel that we can take it that all our troops are well-behaved chaps in every way, and that no traffic control is required for them to get their vehicles round whatever obstacles might be encountered.

What I shall do then, if I may, is to set out the basic sections required to make up the company, together with the reasons for having them—their tactical necessity, that is—and follow this up with any rules for weapons not already covered in this series.

The functions of the Headquarters Company as I see them, and in accordance with which I organise my own forces, are primarily those of support, and in "The Action at Twin Farms" one was left with the suggestion that it was opportune to call for assistance, this being, of course, from the battalion headquarters company. In the present instance, the support I refer to is that contained within the actual battalion structure, ignoring for the present that provided by associated armoured or artillery units.

One of the first types of support likely to be called for by bogged-down infantry would be that provided by mortars, that is for mortars additional to those doubtless already engaged and belonging to the third section of the infantry companies. This would occur pretty frequently, and to saturate an objective with mortar bombs could be done only by concentrated and directed fire from a number of mortars. They would not necessarily be of greater calibre than the section mortar but would rely on sheer numbers to produce the desired effect. So, we can then do no better than to organise the Mortar Section of the Headquarters Company as consisting of four mortars and their requisite two-man crews—just as the infantry section mortar is operated, in fact. Much of the Mortar Section's fire will be guided—that is, with the target not directly visible, of course—and consequently a degree of signals and command organisation will be necessary, the first of such elements being the Forward Observation Officer (similar to that of the artillery battery), who will push ahead to liaise with the infantry who have asked for support, who will have the target indicated to him and who will thereupon radio back to his mortars, giving the normal directions for laying down fire as he guides it. I think it might be as well if the Mortar Section should have two officers, the F.O.O. and the Section Commander, and transport must be provided. To save on the numbers of vehicles, I feel that two mortar teams could be accommodated in one 2½-ton truck, making two for the section, and that one jeep each could be allocated to the two section officers, thus giving a grand total of four vehicles (already our transport is growing apace!). For simple convenience, I am referring throughout to Minitanks products in speaking of transport, but this is only a suggestion—there are many other types available. The jeeps—and the trucks, too—would have the inevitable 'fixed' driver, and the former would have radio antennae fitted to indicate that they were so equipped. The F.O.O.'s jeep could have an additional crew member to operate a fixed machine gun, but that is a matter of personal preference.

On to the next section, then, which will be the anti-tank one. My own choice in this matter is to make this a pretty powerful little unit, possibly more so than might be deemed correct. This I do for one reason—namely, the infantry companies are already well equipped to deal with enemy tanks (it may be recalled that the 1st and 2nd sections of each are supplied with bazookas), so, acting on the premise that, if enemy armour has broken through the bazooka barrier, or is too strong to be coped with by the infantry, then something at least moderately powerful will be required to stop the said enemy armour. Now, the choice of gun will really depend upon, first—the nationality of the player's army, if any—second, the exact power of the weapon the player wishes to employ. If British, the gun could be the 6-pounder (the Airfix one is very suitable), or possibly the 17-pounder; if German, then the 50 mm. gun might be considered appropriate, and



Our heading photo is a typical bridge assault, with armour and infantry in close co-operation.

Left: A "Do-it-yourself" 90 mm. anti-tank gun, as referred to in the text.

if Russian, the 57 mm. or the 76.2 mm. could be used. The Airfix 6-pounder needs only a little conversion to turn it into a Russian 76.2 mm., but I'm bound to confess—indeed it has probably been obvious from photographs appearing in past issues—that I simply use the untouched 6-pounder with Russian type troops. I daresay that some *were* sent as part of the military aid to Russia at some time. Anyway, that's my story! Of course, one can always 'mock' up one's own guns, and as the accompanying photograph illustrates, the most realistic appearance can be obtained with a little care and ingenuity. The gun is a 90 mm. weapon, and belongs to a wargamer whose complete organisation is based on weapons of this standard calibre.

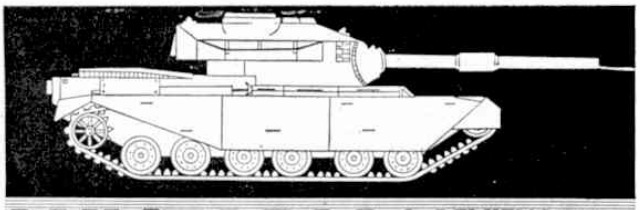
As to personnel and transport for the anti-tank guns, well, my own setup is relatively simple, consisting of—as prime movers—the ubiquitous armoured half-track, similar to that used by the infantry (mechanical uniformity always being a desirable feature), and for the crews, I think that three men to a gun should suffice, in addition to which there would be the section commander, an officer who, for reasons of economy both of finance and of room, rides in one of the half-tracks, although he could have a jeep, if the player feels generously disposed.

The heavy machine gun section is next to be reckoned with in our organisation. It has already been said that the H.M.G. is primarily a defensive weapon, used for laying down curtains of fire at long range to inhibit the movement of enemy infantry and light transport, and it is for this very good reason that it is included in the reserve sections of our battalion. The section, as we decide it should be composed, consists of four heavy machine guns and their crews—two men to each gun, naturally, plus a section commander. Again, the transport may be limited to two vehicles—2½-ton trucks or armoured half-tracks if they are available, although my own preference is for the truck. The section commander can once again—and democratically—accompany his men, in one of the section vehicles, of whichever type was chosen.

Finally, there can be added to our headquarters company a rather polyglot group, armed with miscellaneous devices and fulfilling a variety of roles, this lot being best described as the Assault Pioneer or Assault Engineer Section. In this group we shall have the engineers proper, who will lay their own mines or attempt to detect the presence of the enemy variety. A proportion of such types would be equipped with the traditional mine detector—the sort of thing that looks like a large plate attached to the end of a broomhandle. Others would have explosive charges—"Bangalore Torpedoes"—to blow up enemy barbed wire or other obstacles, to clear roads for traffic and so on. I should think that four men would be enough to be getting on with (two could be figures actually using the mine detector). The last two in the section, and indeed in the whole headquarters company, would be armed with man-pack flame throwers, whose primary employment would be to clear enemy occupied houses, pillboxes, etc. I was wrong, actually the last individual is the engineer N.C.O., who, with his men, would be accommodated in one vehicle, preferably a truck.

To recapitulate, what we have in Battalion Headquarters Company, is as follows: It turns out to be quite a convoy!

The Command Car.
H.Q. Communications Section (1 radio truck).
Mortar Section (2 trucks, 2 jeeps).
A/T Section (2 half-tracks, 2 A/T guns).
H.M.G. Section (2 trucks).
Assault Pioneer Section (1 truck).

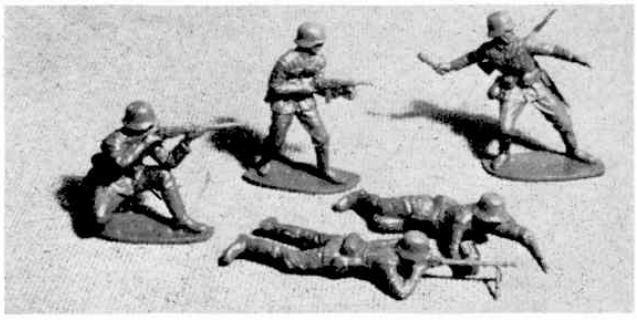


MILITARIA

A REVIEW BY CHARLES GRANT

DESIGNED AS a volume for the younger reader, "Introduction to Battle Gaming" by Terence Wise (MODEL AND ALLIED PUBLICATIONS—21/-) is a hundred-per-cent successful. It deals, in a clear and interesting way, with every aspect of wargaming and, aided by excellent photographs—these are scattered generously throughout the text—and diagrams, the writer has contrived to give a graphic and exciting account of various types of battlegames, beginning with the reconstruction of an encounter in the Punic Wars, wherein Hannibal suffers a pretty nasty defeat at the hands of his ancient enemies, the Romans. For the two other generally accepted divisions of warfare—the horse and musket, and the modern era (i.e. World War II)—similar engagements are used to illustrate the relative rules. The book is particularly readable—one is not battered with page after page of abstruse tables of this, that and the other—and it can be 'dipped into' at any point and enjoyed. In the 160 pages are included all possible hints to further one's enjoyment of the hobby, how to make terrain, and how to purchase it if time and the inclination are lacking. I was impressed with the quality of photographic reproduction, even one of 'yours truly' in his wargame room coming out very well! Obviously, such a book cannot be expected to deal in depth with every branch of wargaming, but even the most experienced of players should not find much to cause him to turn his nose up! The more youthful reader—from ten or so upwards—should find it of the greatest use, particularly the appendices dealing with information sources, books and what figures are available. The only ommission is in the last, where, under the heading "Ancient"—the well known Garrison figures are conspicuous by their absence. Otherwise—no complaints.

Converts to wargaming, when starting to organise their forces, could do no better than to seek their troops from MINIATURE FIGURINES (5 Northam Road, Southampton). I have mentioned them already in "Militaria" and now a further small selection is shown, ranging from ancient times to the Nineteenth



BATTLE

by Charles Grant

PART XXI

MAINLY ABOUT MINES

BEFORE CARRYING on with some more 'action' (in the next Part we shall be having a go at a rather more general engagement than those previously described) we have to complete our examination of the Infantry Headquarters Company, whose composition was set out in Part XX, by noting certain rules governing weaponry we have not already touched upon. These affect the support elements on the HQ Company, and being few in number may be dealt with briefly.

Certain of the HQ components have been covered already—rules for mortar and heavy machine gun fire, as well as for the anti-tank section have already been formulated—and we are left basically with the Assualt Pioneer Section, the six men and the N.C.O. comprising it. A fair amount of what we can say about this section falls really into the realm of strategy rather than of tactics, particularly in the type of battles we have in mind at present—that of not greater extent than, say, battalion level. As such, more will be said in this respect when we proceed to games in which maps are used. Take the laying of mines, for example. On a table top with a battle in progress, there would be little point in giving one's engineers the job of laying a minefield. The enemy would see what was going on and would therefore avoid the mined area like the plague (even if 'visibility' was such as to prevent his 'seeing' officially it would be too much to ask him to turn a blind eye to such an important operation.) Ideally then mines would have to be in position and their position noted on a map before any troops actually were placed in position on the wargame table. Indeed, this is far more likely to be the case, minefields being strictly defensive, and it would be likely that the first evidence of their existence would be when a leading tank 'went up' when entering a mined area. Unless, of course, detecting apparatus had not previously been employed.

Even so, just in the event of a player's wishing suddenly to discourage an opponent's incursion into his line in some particular spot, we shall give the rules for the tabletop operation. We can either—according to the whim of the player—ignore the question of supply, or can stipulate that each engineer section has so many mines, or, better still, can mine a certain particular area with the available supply.

Basically, a mine-laying team will generally consist of two men—one digging the necessary hole and the other placing, and activating or fusing the device. The question which will immediately be asked is just how long this is going to take, and the obvious answer is that it depends on just what sort of ground is involved—is it hard or soft? It is a comparatively easy matter to do the job if the team is working in the soft soil of a ploughed field but a vastly different kettle of fish if rough or stony ground is involved, and even more so if the mines are being laid in metalled roads. We could, if required, make some allowance for the difference in the speed of the process caused by such circumstances, but it seems better at present to take

an average and use this as a general rule. I do this also because, as will be generally found, laying a minefield is a job which comes more often into the more strategic type of wargame, in which one can draw out considerable mined areas at leisure. The actual positioning of the mines themselves is a pretty complicated matter. They are not just strewn about in any old way but have to be placed in proper geometrical patterns.

One further point is the question of the type of mine. It is hardly necessary to point out that there was an enormous variety of these devices, although only two main categories need concern us—the anti-personnel mine and the anti-tank one, the latter naturally being very much heavier and more powerful than the former. At the moment we shall consider only the anti-tank variety, as this is the one more likely to be used on the wargame table during a game. All sorts of calculations could be made and tables set out giving times and areas but I think that all this would be out of place in the present context, so, to postulate a simple rule, we shall say that an engineer team of two men can sow an area of one square inch—on the table, naturally—with mines in five moves. This is without doubt a tremendous generalisation, but it will be found to be workable (not forgetting that the two men are half the engineer component of the section—I'm not including those with flame-throwers).

Once laid, if discovered by the enemy, it will take a great deal longer to neutralise the mines in the field. It was a comparatively easy matter to lay them, but to locate, uncover and de-activate them is patently a much more deliberate matter. (At this stage we shan't discuss the 'flail' type of tank, such as the Churchill—that's a highly specialised sort of thing). So again we generalise, and enact that the two-man section—one of whom would be equipped with mine detector—could clear the same area—one square inch—in 20 moves. I re-emphasise, if I may, that this is an arbitrary sort of time, determined upon with an eye on the practical application to the wargame.

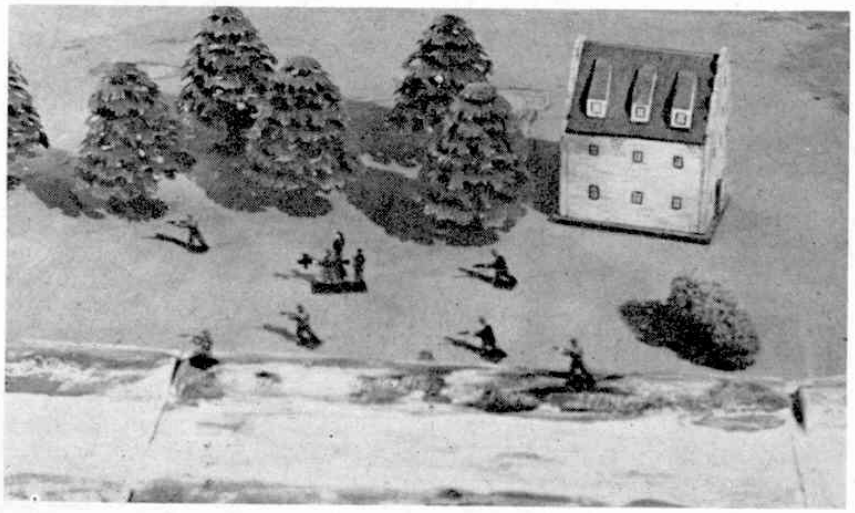
As we are concerned at present solely with anti-tank mines, the question of their being triggered-off by men passing over them does not arise, as it would take the weight of a vehicle to do this, and we have now to decide just what the effect of this would be. The explosion of one mine by itself would rarely be sufficient to destroy a tank, it seems, although it would make a considerable mess of anything lighter. Even so, even one would be enough to immobilise a tank, by blowing off or damaging a track, for example, and if it were unlucky enough to have two explode under it, it might well have to be written-off. We reflect this in writing our rule for this contingency, thus:

As soon as a vehicle enters a mined area, dice will be thrown by the opposing player (the chap who laid the mines)—If the throw is 6—the tank is destroyed. If the throw is 4 or 5—it is immobilised. Throws of 1, 2 or 3 have no effect. For convenience we can lump together all other vehicles, as follows: On entering a mined area—5 or 6 will destroy. 3 and 4 will immobilise. 1 and 2 have no effect.

Of course, should there be a no-effect throw, the tank or other vehicle can proceed—if the 'general' wishes, although he would be unwise to do so, as, on each subsequent move within the minefield, dice throws, as above, will be made, and the further the progress into the mined area, the greater become the risks of destruction or at least immobilisation. Better to wait until the mines have been cleared.

A few words should suffice to take care of the final weapon in the armoury of the engineer section, the man-pack flame thrower, a fearsome thing, although very limited in use. We have already decided on its range and what we want to know now is its effect on tanks and other vehicles. This, contrary to what might have been thought, is not all that enormous. It appears that a spray of petrol or something similar had to be applied before the actual flame, but this is only theory. In practice, a tank—and its occupants—had to be very unlucky if a single jet of flame from a man-carried projector did any real damage at all—let alone send it up in smoke. Actually, this weapon was better employed in clearing houses, bunkers and so on rather than against armoured fighting vehicles. Still, we must have a rule to cover the off-chance, and it is that—with the flame thrower within range, a dice throw of '6' is required to destroy a tank, nothing else is sufficient. It should not really be necessary to stipulate the effect of 'flame' on soft-skinned vehicles—the fuel carried by the man-pack device being severely limited and it would hardly in ordinary circumstances be thus wasted. In fact we might reasonably legislate that not more than three 'squirts' can be made by a flame-thrower. A good reason, therefore, for husbanding the supply. (If, as a special case, it *was* found necessary to use it on a soft-skinned target, the result would be vastly different—a dice throw of 3, 4, 5 or 6 would be enough to do the job of destroying any truck or similar vehicle).

Heading photo: Without a doubt, any move in a battle holds a great deal of risk. In fact as soon as someone moves from cover, there is a great possibility that he will be 'cut-down'. One such desperate move is shown here: tanks and infantry 'rushing' a narrow bridge.



Right: A small band of infantry in open order, advance along a river bank.

BATTLE

by Charles Grant Part XXII

Reconnaissance in force

THE NARRATIVE of a battle such as the one we are about to fight, that is, one in which considerable forces are involved and which covers a much larger area than those we have previously considered, can quite easily become overlong and consequently pretty tedious, but I shall try to make it as concise as possible, without omitting any relevant detail, in the hope of maintaining the reader's interest.

First then, the wargame table, whose topographical details can be studied in the diagram, measures 9 feet by 7 feet, which is about as large an area as can be conveniently fought over. It is possible to reach the centre with maybe a bit of a stretch when moving troops or vehicles and, while a long arm is an advantage, even players of modest stature can, if need arises, stand on a small box or chair to assist manoeuvring in the middle of the "battlefield". The terrain is not tremendously complicated, being a generally flattish sort of counrtyside, dotted with small woods and farm buildings, a feature of the latter being the stone walls of the cattle pens. The river may be crossed only at the two bridges shown, while the hill towards the east is wooded, precipitous and impassable to all troops and vehicles.

To make the thing a little more interesting, and indeed to lend a degree of realism as well, it is proposed to give an account of the fight from one point of view only, that of the RED general, who will initially be in relative ignorance of what he expects to find in the course of the reconnaissance in force which he has been ordered to carry out. The general scheme is that RED, commanding the force whose composition we shall detail in a moment, has been instructed to make a probe from the south towards the angle of the river, in the vicinity of which BLACK troops have been active, although exactly where and in what strength are unknown factors. He—the RED commander—is to drive ahead as aggressively as possible against what is believed to be a BLACK position, to penetrate it if possible, or at least to ascertain in some detail its strength and extent. To this end RED is given a task force made up as follows—one infantry battalion, a section of tanks—two in number— and a battery of field artillery. The battalion is, of course, the motorised infantry one whose composition we have been at some pains to describe—HQ Company (with all its support components—mortars, A/T guns and so on); the field battery has its stipulated two guns, F.O.O., etc., while the tanks—this is a vaguely Muscovite army —are T34/85 types. This is the force then which, coming from the south, will debouch on to the table, on the roads actually, at the points marked 'x', 'y' and 'z', ready, willing and, it is hoped, able to take on whatever awaits in "terra incognita".

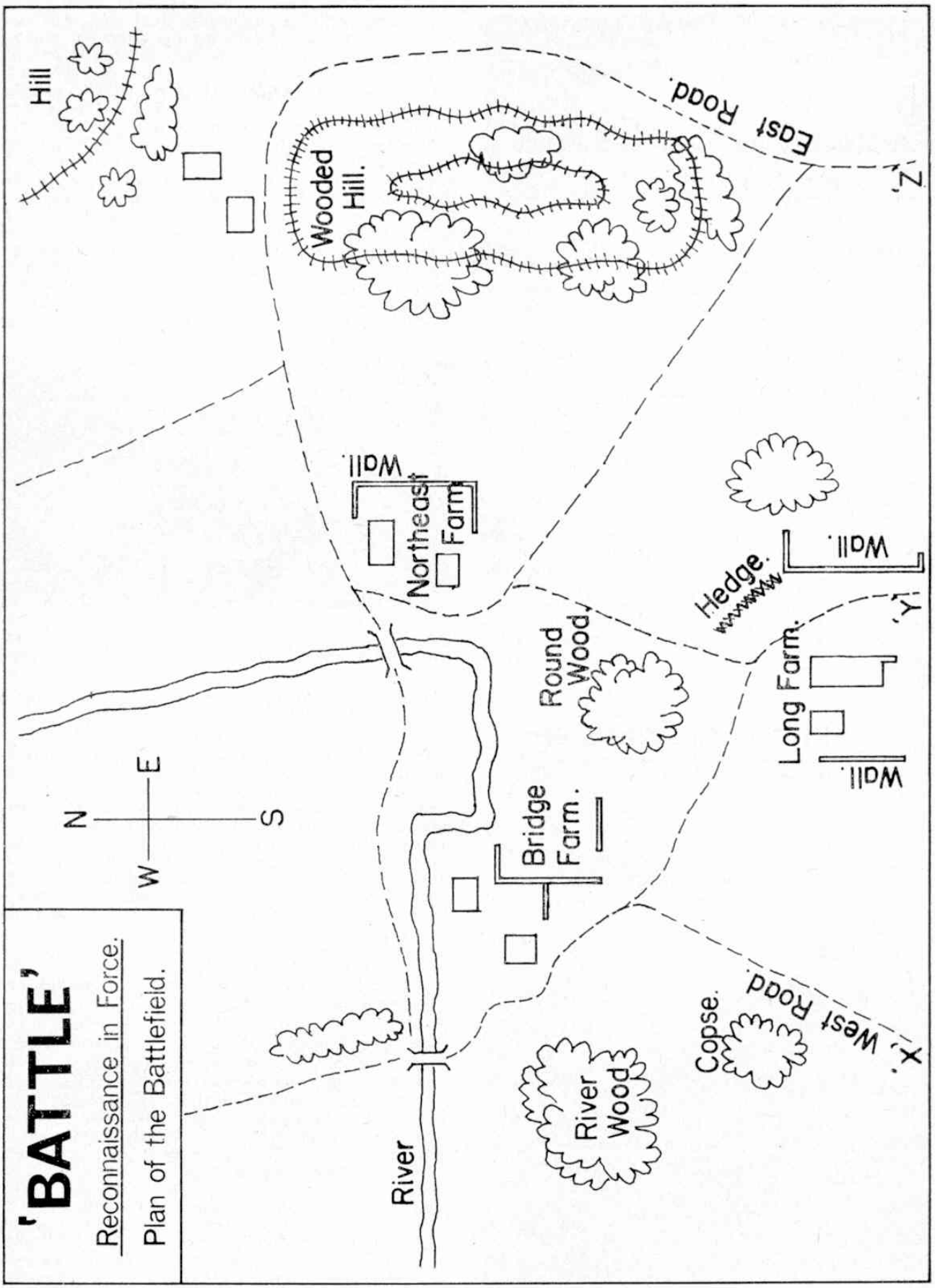
Having studied briefly the terrain, RED decides to take advantage of all three roads, and to advance on a wide front, the axis being the centre road. Consequently, on the first move his troops moved on to the table from the three points—'A' Company of the infantry battalion at 'x', 'B' Company at 'y' and 'C' Company at 'z'. Closely following 'B' Company came the Battalion Headquarters Company, RED himself being with the leading vehicles of 'B', together with that highly important character, the Forward Observation Officer of the Artillery Battery. The guns themselves, plus the two tanks, were held in reserve just off the table south of LONG FARM. At this point the two generals—BLACK and RED—carried out the normal ritual of determining visibility, each throwing a dice. The result was a total of ten, so providing visibility of 25 inches and 35 inches for 'unaided' and 'aided' respectively. It must have been a fairly clear day—both generals appeared to be pleased with the result.

At the conclusion of the first move, then, RED has pushed 15 in.—half-track speed on roads—up all three roads, his Command Car is ensconced behind the buildings of LONG FARM, and the leading elements of his Headquarters are just coming on to the table to join him. His idea was to make the farm his headquarters for the time being. About to make his second move, however, RED is told by BLACK "Hold it!" The latter throws a dice, which comes up '6' and with barely concealed glee he announces to RED that *his* F.O.O. is in radio contact with artillery support and is about to bring down fire upon the advancing RED forces. A few moments cogitation by RED results in the conclusion that there are only two points where the confounded enemy observation point could be located—either in ROUND WOOD or the little COPSE—and the former, being located more centrally, is the more probable. His thoughts, however, are interrupted by BLACK's placing his perspex burst pattern device plumb on the column of vehicles by LONG FARM and stating that this is his target. His 'ranging' throw, unluckily for him, was a very inadequate '2'. He made no comment, but if looks could have killed . . . !

Wisely deciding that the next move might prove BLACK's gunfire to be more accurate, RED decided to occupy Move 2 with organising the dispersal of the considerable mass of vehicles about LONG FARM in an endeavour to minimise the possible effect of the enemy artillery fire. This he did, spreading the half-tracks and so on as widely apart as possible, and directing the support sections to take position behind the stone walls and the small wood on the side of the road opposite the farm.

At the same time 'C' Coy. continued its advance along East Road, taking the right hand fork, with the aim of skirting the eastern side of the wooded hill. One half-track from 'A' Coy. moved off West Road towards the COPSE—it was just possible that the enemy F.O.O. was therein—although the arrival of the half-track close by produced no enemy reaction. To BLACK's chagrin, when it was time for him to fire, his ranging shot again failed, and to RED's satisfaction, his scattered vehicles remained quite unscathed.

However, RED's advance towards the COPSE had brought almost all the farm buildings to the north—call it BRIDGE FARM—into visibility, causing BLACK to disclose—and set down on the table—a fairly substantial force of infantry round the farm, including bazookas and mortars. Also—and this intelligence was of considerable value to BLACK—two Mark IV tanks, armed with the 'long' 75, could be seen, one on the road between the farm and RIVER WOOD, and one in the farm itself. Infantry could also be seen in RIVER WOOD, although in what strength could not be exactly determined, BLACK declaring that they were concealed. (As such, of course, they were ineffective, having to be set down before becoming operational).


'BATTLE'
Reconnaissance in Force.
Plan of the Battlefield.
N
E
S
W
Hill
Wooded Hill.
East Road.
Z.
Wall.
Northeast Farm
Hedge.
Wall.
Y.
Round Wood.
Long Farm.
Wall.
Bridge Farm.
River
River Wood
Copse.
West Road.
X.

BATTLE By Charles Grant

Part XXIII

Reconnaissance in force—Conclusion

ON MOVE 3, then, RED decided to winkle out the troublesome FOO in the ROUND WOOD, and to this end directed two of 'B' Coy.'s half-tracks in this direction, one directly along the road, the other off the road and towards the wood's eastern side. BLACK saw little point in chancing his arm by bringing his vehicles unnecessarily into the range of the BLACK tanks at BRIDGE FARM. 'A' Coy.'s second and third half-tracks advanced to join the first which had preceded them towards the COPSE. It seemed that this company's task—when support had arrived—was to be an advance directly against BRIDGE FARM. The said support was the troop of T.34's, which now rumbled onto the table at 'y', and swung westwards behind LONG FARM. 'C' Coy. continued up East Road and was now in sight of the northeastern group of buildings—so far nothing could be discerned in this quarter. A final important move—RED's F.O.O. followed up 'B' Coy., RED deciding that the sooner his own guns were in action, the better.

As RED expected, the firing on Move 3 included BLACK's field artillery—and to this individual's joy, he finally threw a '6' and scored his ranging shot. Promptly the perspex burst pattern was placed on two half-tracks at LONG FARM, one being in the centre section (5 or 6 to hit) and one in the section requiring a '4'. He threw a '3'! (Muttered threats to demote and disgrace his artillery commander were heard at this point.) However, he was not finished, and he decided to have a crack at one of RED's half-tracks, the one on the road south of ROUND WOOD. This was to be done by the tank stationed in BRIDGE FARM. Range being in the 30 in. to 45 in. bracket, a '9' was required to register a hit (with two dice of course) and he threw a magnificent 11! To destroy the half-track, with a Defence Value of 11 and with the Mark IV's Strike Value of 4 at this particular distance, he had to throw a minimum of eight, not by any means impossible, to make the 'killing' total of 12. What he got, in fact, was a miserable 3! Luck, so far, had been conspicuously absent from BLACK, not that RED was perturbed about this, being anxious to get on with Move 4.

On this move BLACK showed considerably more activity than previously. The tank on the road moved quickly southwards, nearly reaching the junction south of BRIDGE FARM, more infantry moved into sight from the farm buildings to line the stone walls, and, at ROUND WOOD, two heavy machine guns, previously concealed in the trees, moved forward to take up a position on the fringe of the wood. Having moved, of course, they could not fire on this move. For his part, RED 'debussed' 'B' Coy. from their half-tracks —wisely enough on the side further from the enemy— and, thinking to make use of the mortar in the third half-track, brought this one forward to join the others. 'A' Coy. vehicles drew together behind the COPSE, not liking the look of the approaching Mark IV. RED's T.34's moved northwest towards the COPSE, the move bringing them into extreme range of the Mark IV on the road. Away to the east, 'C' Coy. was now approaching the buildings in the northeast. There was still no reaction in this quarter.

Firing for the move was now carried out. BLACK decided to switch his artillery fire to RED's 'B' Coy. vehicles south of ROUND WOOD, but he failed with the ranging shot, scoring only 4. (As he had changed target from the previous moves, this second ranging shot was obligatory). He was also unsuccessful in an attempt to hit one of the same half-tracks with the tank at BRIDGE FARM. An exchange of fire between the other Mark IV—on the road—and the two T.34's, which were in echelon to the right caused no damage to either side. BLACK registered a hit, but his effect throw was insufficient, while RED failed to hit at all.

The astute reader and student of the military art will doubtless have seen the change of names between the first and second maps for Reconnaissance in Force. This was due to interrogation of local peasantry which corrected faulty intelligence initially supplied to RED by his commanding general.

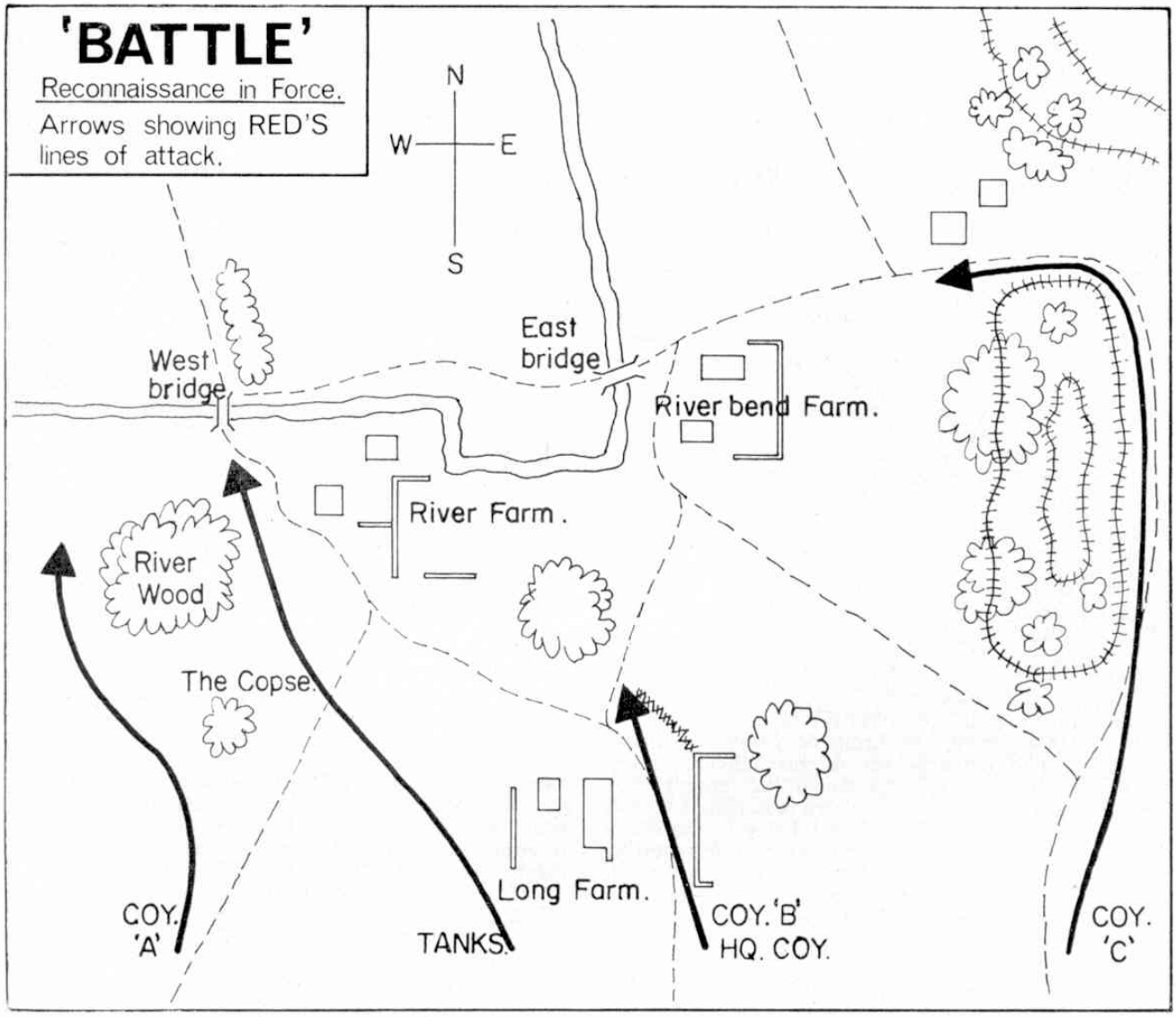
Deciding to make sure that the COPSE was not concealing any lurking enemy, RED 'debussed' one of the infantry sections of 'A' Coy. with the intention of clearing the said COPSE, and at the same time he moved his 'B' Coy. men forward—in open order, needless to say, towards ROUND WOOD. The half-tracks of Coy. 'C' carried out another road move of 15 in., while RED also brought forward the F.O.O. of his Headquarters Company, having in mind that it might be necessary to employ the Mortar Section against ROUND WOOD, and simultaneously two of the section's mortars were brought into firing position in the walled enclosures to the right of LONG FARM. The T.34's moved a further 8 in. in a northwesterly direction, but BLACK's tanks remained stationary.

The RED advance in the northeast, however, caused BLACK to expose a 50 mm. A/T gun at RIVER BEND FARM, and some infantry could also be seen thereabouts.

As might have been expected the tank duel continued when firing took place on this move, but although both RED tanks scored hits on the nearest Mark IV, neither of the 'effect throws' was sufficient. One did get a total of 15, but as this was on the front of the Mark IV, it merely equalled the Defence Value, but did not exceed it. At the range, though, the reply of the Mark IV was also not enough, the score of 7 not constituting a 'hit'. Still, the other BLACK tank—the one in the farm buildings—did have a successful 'shoot'. Firing at one of RED's half-tracks south of ROUND WOOD, it got a hit, then, with a splendid score of eleven, well and truly destroyed the target vehicle. No personnel were involved, however, all having previously left the half-track to take part in the infantry advance against ROUND WOOD. BLACK's 50 mm. gun at RIVER BEND FARM also opened up on the approaching half-tracks but its first round did not register a hit. Things were hotting up at ROUND WOOD, where BLACK's machine guns accounted for two RED infantrymen, but they—the machine guns—were in turn put out of action by RED riflemen (RED threw two 6's in succession!). BLACK's ill-luck continued, when his F.O.O., throwing for a ranging shot on the RED infantry, made only a 1 (This throw was necessary because of a target change).

This ending the firing, the players now carried on with Move 6. BLACK now brought his advanced tank back towards RIVER WOOD, and from the depths of ROUND WOOD, brought out masses of infantry to line its edges (He was evidently determined to hold this position, considering it a key one). Other infantry, well equipped with bazookas, machine guns and a mortar, came into view at RIVER BEND FARM. RED's tanks continued their steady advance, their 8 in. move bringing them up to a point level with the south side of the COPSE (and on its east side, of course). In the centre RED's Coy. 'A' advanced towards ROUND WOOD, and to the northeast, the half-tracks of Coy. 'C' spread out somewhat, apparently preparatory to the infantry's 'debussing'.

Now for the firing; BLACK's guns now came into their own, his F.O.O. finally throwing a successful 'ranging shot'—a 6—on the RED infantry moving towards ROUND WOOD, and the resulting 'effect throws' disposed of an officer and one rifleman. To



the west, RED infantry advancing into the COPSE found no enemy therein, while to their east, the armoured battle went on, both Mark IV's slugging it out with the T.34's. One of the BLACK tanks did score a hit, but failed with the 'effect throw'—the other missed completely. The right-hand T.34 similarly failed, but—to RED's unfeigned glee—the other first scored a hit, then throwing a total of 9 for effect, destroyed one of the Mark IV's (total being 9 plus Strike Value of 8, giving 17—more than enough). All was not to RED's liking, however, no less than ten of BLACK'S riflemen lining the southern fringe of ROUND WOOD, and they brought a devastating fire against the RED infantry advancing in the open, accounting for no less than seven of them. With BLACK in 'soft cover', RED's reply was only a moderate one, only three of the BLACK riflemen being removed as casualties. This proceeding really rocked 'B' Coy., as it had already lost an officer and another rifleman. The company mortar was now in action, but its first ranging shot—3—was not good enough. To the northeast, BLACK's A/T gun failed to hit one of the enemy half-tracks, and the move was over.

On Move 7, while one of their infantry sections continued its advance through the COPSE, the two others belonging to RED's Coy 'A'—in their half-tracks, of course—moved round the west side of the COPSE, doubtless heading ultimately for RIVER WOOD. On the east side of the COPSE, the T.34's continued their forward progress, and were now past that small patch of trees. In the centre, however, RED pulled back his somewhat shattered 'B' Coy. towards the shelter of their two remaining vehicles. The dispersal of 'C' Coy.'s half-tracks continued, one moving south to the edge of the wooded hill, the other swinging northwards to outflank RIVER BEND FARM. RED's mortar section F.O.O. was now up with 'B' Coy., ready to bring much needed support to this unit by laying fire down on ROUND WOOD.

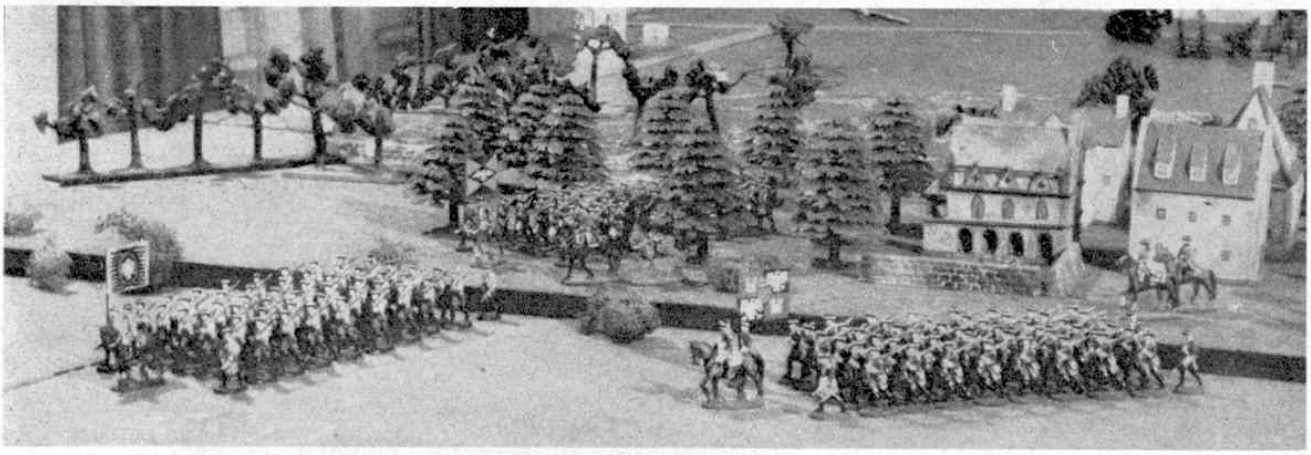
Firing for this move now proceeded, beginning with BLACK's F.O.O., who again failed to get the range of the RED infantry retreating from the attack on ROUND WOOD. A BLACK mortar in RIVER FARM opened up on the RED infantry just emerging from the north edge of the COPSE, but its first shot was a failure—BLACK threw a 2 only. A heavy machine gun also fired from the farm but at long range its fire was ineffective. With two tanks to his adversary's one, the advantage in the tank fight was now squarely with RED, but this availed him nothing on this move, neither of his T.34's scoring a hit. The solitary Mark IV's shot did register, but the succeeding effect throw was not good enough. The A/T gun at RIVER BEND FARM did make up for this, however, hitting and destroying one of the Coy. 'C' half-tracks. Not only that, but when dice were thrown to decide the fate of the men inside, it was seen that no less than a rifleman, the N.C.O., a sub-machine gunner and the bazooka team had all bitten the dust! This was a pretty severe blow. RED's support section mortars—the two in position—now fired, the F.O.O. getting the range, but the bombs both fell in area '3', just in front of the target, and as this was empty, no casualties were therefore inflicted. However, the F.O.O. *had* established the range.

On we go with Move 8, RED's two Coy. 'A' half-tracks continuing round the west side of RIVER WOOD, the third picking up its personnel on the north side of the COPSE. The T.34's advanced once more, and they had now pretty well reached the road junction south of RIVER FARM. Coy. 'B', however, seemed to have had enough, for the moment at least, and stayed where they were. Coy. 'C'—or the two remaining half-tracks—remained stationary as well, apparently awaiting events. BLACK, for his part, made no move, but a panzerfaust team made its appearance from RIVER WOOD and two more emerged from RIVER FARM to threaten the nearest of the RED tanks.

Beginning his firing, then, BLACK failed with his artillery ranging shot, and his Mark IV was also very unlucky, the throw just falling short of what was needed to write-off one of the T.34's. These, however, made no such error, and the second of BLACK's tanks went up in smoke—and the end of his armour. The two panzerfaust teams from RIVER FARM did no better, neither being able to score a hit—really bad luck, this, and no mistake—but the one from RIVER WOOD rather redeemed this, first scoring a hit on RED's leading half-track (of Coy. 'A', of course), and then polishing it off with a total throw (including strike value) of 14. Not only this, but of the troops inside, a rifleman, two sub-machine gunners, the bazooka team and the officer were wiped out. From the RED point of view, the two mortars of the support section, already having the range, both fired, accounting for two of BLACK's riflemen in ROUND WOOD. BLACK's 50 mm. A/T gun had another go at one of the 'C' Coy. half-tracks, but failed to secure a hit, and the Move was thus at an end.

At this point, with the aim of preventing any onset of tedium, we shall no longer deal with the engagement move by move and in the detail we have given so far—repetition does nothing to stimulate interest—but we shall continue with the narrative of what happened in a much more general way, since we have already shown, it is hoped, just how we carry out a large-scale operation involving all arms, and doubtless the tactically minded reader—placing himself in RED's shoes—will have already decided on what he should do to exploit the position as it stands at the end of the eighth game move. So far, then, the honours have fluctuated fairly evenly—as far as the infantry fighting is concerned—between the two sides, each having lost a fair proportion of their men, but the key to the situation is obviously the RED armour now poised to strike northwards towards WEST BRIDGE as possibly beyond. The full weight of RED's mortar section and field guns have yet to be brought to bear on BLACK, and his troops in ROUND WOOD particularly must be getting a trifle nervous and beginning to look back over their shoulders, nor can it be expected that the solitary A/T gun at RIVER BEND FARM can hold up Coy. 'C' for very long. It might be said, therefore, that a withdrawal of BLACK's advanced elements south of the river would be in order.

In the event, this was precisely what BLACK decided would be the most sensible thing to do, but alas, RED had other plans. In brief, he brought down a storm of fire, from his mortars and from his field guns, on ROUND WOOD as BLACK's men there were beginning their retrograde move. Not a few casualties were inflicted, but—most important—one was BLACK's F.O.O.,—a loss which effectively terminated his artillery fire. At the same time the tanks roared northwards and over WEST BRIDGE, well and truly cutting off of the BLACK units south of the river. The A/T gun and the infantry at RIVER BEND FARM did pull out—in rather indecent haste—and made a precipitate retreat to the north, leaving RED a total victory and undisputed possession of the battlefield.



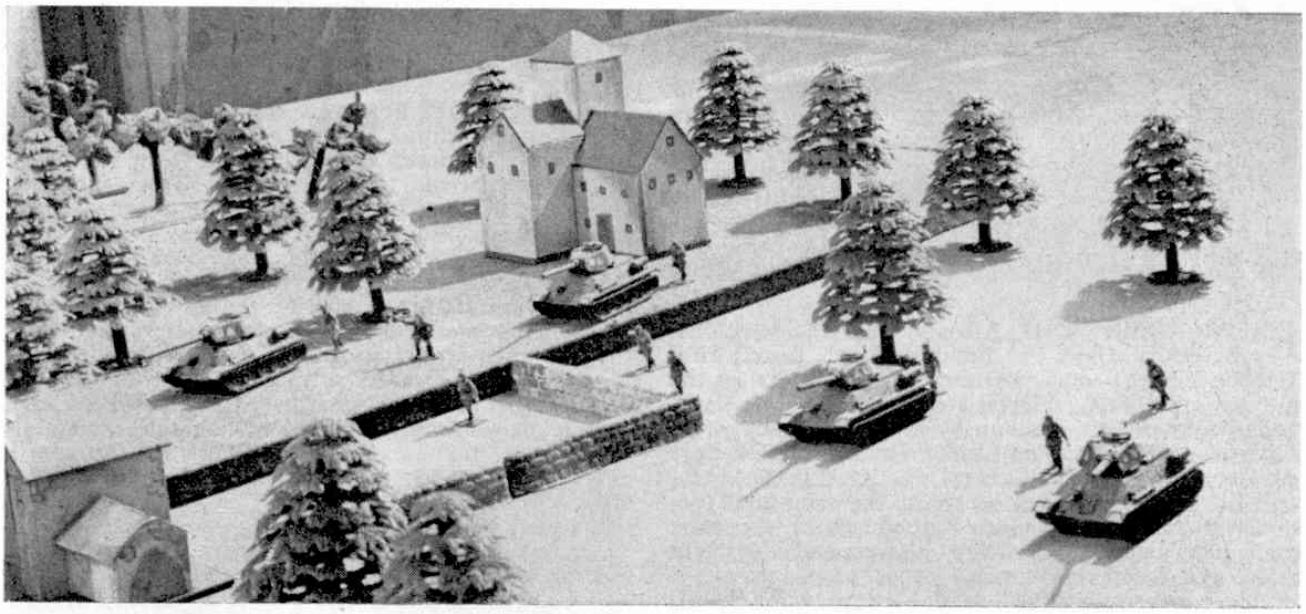
BATTLE by Charles Grant Part XXIV 'MORALE'

IT MAY NOT have escaped the notice of the keen-eyed reader that something of considerable significance occurred during the narrative of the reconnaissance in force which took place in Part XXIII. This, of course, was the occasion when RED's 'B' Coy. infantry, advancing against the enemy in ROUND WOOD, suffered very severely from BLACK's artillery and rifle fire. Without going into details, it will be recalled that the survivors of the company were pulled back and took no further part in the action. Perhaps it might be asked what the reason was for this taking place and why the company was not used aggressively during the remainder of the fighting. The answer can be expressed in one word—Morale. What we have to do now is to discuss what this is all about, and what effect morale—or the lack of it—has on troops in the wargame.

First of all, let us consider what it means. Now, we do not have to be graduates of the Staff College to know that soldiers, of no matter which nation and in no matter which period of warfare, did not always do exactly what was expected of them. Time was in wargames, before some of the present refinements were introduced in recent years, when the two opposing sides would slug it out until the game finished with a couple of men left standing on one side, and with the other totally annihilated. This, of course, was a completely unreal situation and had no relationship at all to what happened in 'the real thing.' If indeed it were so, it would inevitably mean that the stronger or more numerous side in any engagement would without any question prove to be the victorious one. Now this is very far from being necessarily so—look at Lord Wavell's first Libyan Campaign. There is a classic example of David beating the daylights out of Goliath, or of a small force beating a much larger one hands down. This is one of the principal aspects of the morale thing, where the chaps with plenty of guts knock out a vastly greater number of men who, for one reason or another, don't have their hearts in the job. Of course there are other aspects to be considered—training, experience, fitness, and so on—but the point I'm trying to make is that, all things being equal, the men with higher morale will generally prevail.

At different periods of military history not always the same factors were involved in determining the morale of troops, and in those different eras we have to examine all sorts of things in connection with this, and even at times the political background to the war with which we are concerned. Take the troops who fought for the South—the Confederacy—during the American Civil War. Certainly in the earlier stages of this conflict at least, the near fanaticism of 'Johnny Reb' was something which vastly increased his fighting power, but characteristically, we find that soldiers of this type who can perform wonders of bravery can, in contrast—and it has happened many times—suddenly, for no apparent reason, bolt like rabbits, although within days, or possibly even hours, the same men will be as right as rain and ready for anything. A century or more before the American Civil War—in the time of Frederick the Great—things were different again. The Prussian and other continental troops were drilled and regimented to such an extent that the men were practically unthinking automatons. They endured heavy losses in action without flinching, so long as there was a sufficiency of control, that is, plenty of officers and N.C.O.'s, to see that orders were carried out. However, once casualties among the officers had mounted to such an extent that control started to slip, then the men were 'off' and it was a near impossible undertaking to get them back in line. Of course, the troops of yesterday—I mean the early 19th Century, the 18th Century and even earlier—had rather more to put up with in respect to the visual inpact of casualties than their modern counterparts normally do. The men at Blenheim, Zorndorf and Waterloo saw more in the way of heaps of casualties then ordinarily is the case in modern warfare where concealment and dispersion reduces the effect of this sort of thing.

The sum total of all the foregoing is that, if one wishes to give some degree of realism to one's wargame, appropriate allowance had to be made for this intangible quality of morale and for the occasional inexplicable and irrational behaviour of troops in the field, whether it be panic flight or a simple refusal to carry out orders. If one wants to go into this sort of thing really deeply, a whole host of influences will have to be considered—fatigue, whether or not the men are hungry or thirsty, what sort of leaders they have, have they been winning or losing previously, and so on and so on. Possibly our period—World War II—is the least easy of any era of warfare to lay down an easily workable morale rule, and this for a number of reasons. Of these the most important probably is that individual training—for the single soldier of any rank, that is—has been brought to a far higher pitch of perfection than was the case in



The two photographs illustrate the point made in the text relative to morale in different periods: the 18th Century infantry advancing in solid blocks while their present-day counterparts are in very extended order.

armies of a hundred years or more ago, when the infantryman had not much more to learn than his drill movements, his musket exercise, and how to stand in line until he dropped or was ordered to advance or retire. On the contrary, the present-day 'thinking' soldier is expected to employ all the skills taught him throughout lengthy training, plus initiative and intelligence to cope with any sort of situation, even if out of touch with officers or totally isolated and far from the remainder of his unit. An 18th Century regiment, standing in line 'in close order for firing' can be fairly readily assessed morale-wise, while for a 1944 unit, scattered all over the countryside, with the men lurking behind bushes, ensconced in fox-holes, or hidden in ruined buildings, it is an entirely more complicated matter. Obviously, in such circumstances it cannot be a question, at one fell swoop, of using a rule to ascertain the state of mind of a battalion or a regiment, and we shall have to split the larger unit up into smaller entities in determining morale and to decide in what circumstances this will, in fact, have to be done.

In all this we shall have to do our best not to make the system too complicated, and to develop some sort of rule of thumb where speed of reaching a decision about the morale of a certain group can be combined with achieving realism in its behaviour. We shall have to devote some thought on how to sum up the two sorts of factors involved—the material and the intangible—the latter being probably the more obvious. As far as our wargame is concerned it will be done—just as the determination of morale is made for any sort of regiment in any period of warfare—by a dice throw, and of this we shall speak more anon.

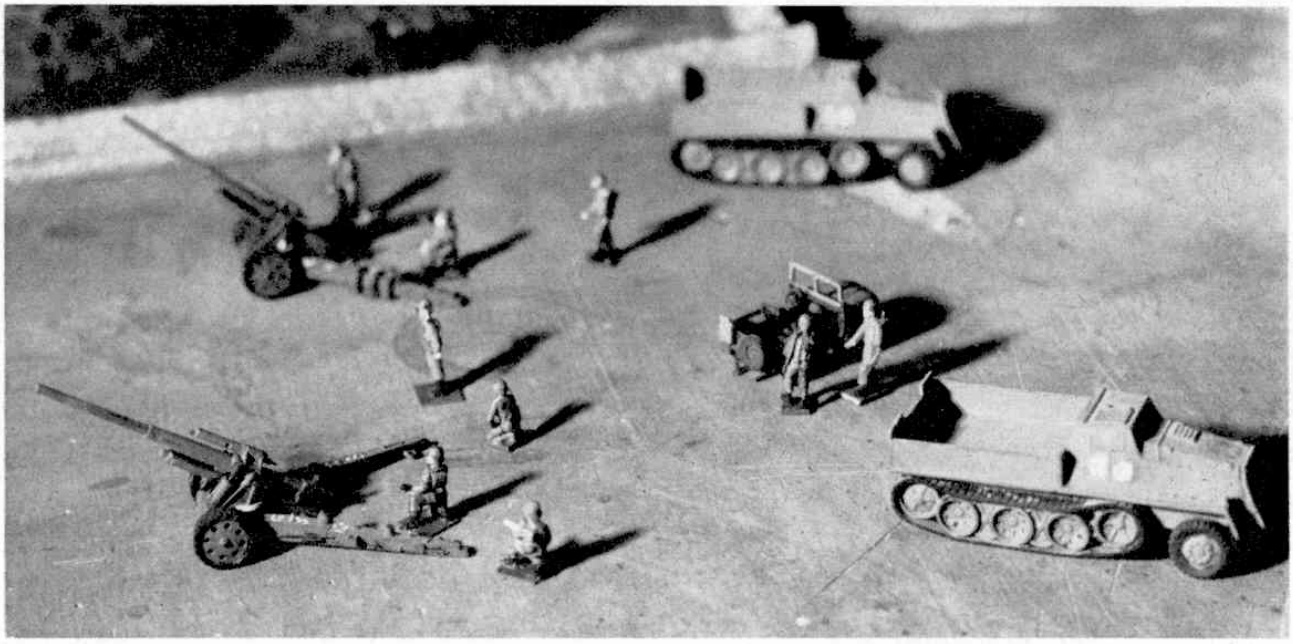
The material points which might be considered are literally legion. Some of them have already been indicated—fatigue, quality of training and so on, but in accordance with my oft-expressed thesis that our wargame rules should err rather on the side of simplicity than in the other direction, we shall keep them as uncomplicated as possible, the idea being always at the back of one's mind that the present rules can act as a foundation upon which, if desired, a more complex or elaborate structure may be erected. So we shall briefly list and discuss the various factors which, combined with a dice throw, we shall take account of when proceeding to make an assessment of the morale of a group of soldiers, and also when, and in what circumstances it will be required to make such an assessment.

Let me list them the factors which will in some measure affect the morale of our unit and say a few words on each. First, the obvious one will be the presence or absence of the controlling body, which will be the officer and N.C.O. elements, whether one or both be applicable to the group we are considering. Obviously if both are casualties this will have a pretty marked effect even on our highly trained infantrymen. Next, the question will be one of protection—the partial immunity afforded by hard or soft cover will certainly influence the troops and determine how safe they can consider themselves. Whether or not our chaps are in communication with higher authority for orders and information is highly important, if this be visually, by word of mouth or by radio, and this factor will operate irrespective of the presence of officer or N.C.O. Very important, needless to say, is the number of casualties the group has suffered—morale will be lower in proportion to the number who have fallen in action. Finally, as a special case (although it will frequently apply to our motorised infantry, or indeed to any carried in Armoured Personnel Carriers) the survivors of any carrier-borne infantry until will have to have the destruction of their vehicle taken into consideration. Men who have just scrambled out of a 'brewed-up' half-track, for instance, will be pretty shaken, there is no doubt at all.

These then are the bare bones of the points we shall consider in the question of establishing morale, and the list reads—

(1) Control.
(2) Cover.
(3) Communication.
(4) Casualties.
(5) If vehicle destroyed.

These are the headings under which we shall discuss morale and arrive, we hope, at a General Morale Rule to cover the problem.



'BATTLE' By Charles Grant

PART XXV

MORE ABOUT MORALE

HAVING DISCUSSED at some length the theory of morale it is now incumbent upon us to take a look at the practice thereof.

First, when considering the operation of a Morale Rule, we have to decide upon the size of each individual section or group to which the morale assessment would be applicable (it having already been pointed out how inappropriate it would be to make a single assessment for a complete battalion or regiment). This, obviously, will largely depend on what sort of organisation the wargamer has decided to adopt for his army, and this is especially cogent when the question is one of estimating the effect of a number of casualties on the survivors of some group of men. It is apparent that the loss of one man will have less effect on a unit or section of, say, ten, than it would on one consisting of six individuals. Knowing then that each individual wargamer can, without a great deal of difficulty, adapt a generalised sort of rule to suit his own purposes, I propose then to lay down such a morale rule as is applicable to my own setup, and if that of the reader varies in a major degree, he can easily fiddle about with what I have proposed until he arrives at something more suitable to his own organisation.

Let us take then as an example the motorised infantry battalion whose break-down we have already discussed and with which indeed we have already seen action. It consists, it will be recalled, of three rifle companies and a headquarters company, and it will be convenient to consider, for morale purposes, each of the rifle companies as one unit. They operate independently for most of the time and, as such, each may be considered as an appropriate entity for morale assessment. They have much more individual identity than the Headquarters Company which, as we shall see later, will have to be subdivided in this connection.

Looking back to Part XXIV, let us quickly list again, prior to discussion, the factors which we decided were the principal ones influencing the morale of a unit. They were (1) Control, (2) Cover, (3) Communication, (4) Casualties, and (5) the state of the unit's transport, if this be applicable. These points, considered together with the 'imponderable', the unpredictable factor, which for want of a better term we can call 'luck', will determine the behaviour of wargame troops under fire. Before this, though, we have to say when it becomes necessary to make this assessment. Briefly, it is abundantly clear that troops moving peacefully along a road, with no enemy at hand, are generally in good fettle, morale-wise, and it is only when they are plunged into action that things may start to happen. We shall go a little further and deem, for wargame purposes, that it is only when casualties have been suffered, or when the transport—truck, half-track or whatever—in which the men have been travelling has been destroyed, that such assessment is re-

quired. The preamble to the Morale Rule reads accordingly—

"When casualties have been suffered by a section, or when the vehicle in which that section has been travelling has been destroyed, then a Morale Rating must be taken for that section".

Right, so far, so good, and on we go. What we want to do now is to choose a number, a sort of 'constant' which, when considered in conjunction with the various Morale Factors *and* the 'imponderable', will show whether or not the section of troops is in good spirits. After some prestigious calculation to say nothing of an immense amount of trial and error in the past, the magical number has been found to be 10. This means that if, when the dice throw has been made and the relevant Morale Factors added or subtracted, the resulting total is still 10 or more, then the unit is of good morale and can continue to behave as its commander —i.e. the wargamer—would wish. The system works admirably within the framework of the organisation and rules which have been set out in "Battle" and should require only slight modification if the reader's setup is materially different.

Bearing in mind then that we start off with a '10', we shall have a look at the different factors and their effect on the final Morale Rating. The first, as we will remember, was Control, and this simply means the presence or absence of the section leader who may, as we know, be an officer or an N.C.O. If this character is not with the group—his absence usually indicating that he has become a casualty—a deduction of 1 must be made to the total with which the unit commenced. If the leader is still about, 'control' is up to scratch and the deduction need not be made. By being present we mean that he is stationed where he can exercise an effective control, possibly in a central position and certainly within shouting distance of at least one of his men, say 50 yards. This gives us the opportunity of laying down an ancillary rule—

"For a section to be operational, the leader must be within 1½ in. of at least one of the group he commands".

This naturally leads on to the problem of what happens if the leader *does* become a casualty and the solution is a very easy one. The next in seniority would take over—the choice for this individual being up to the wargamer—*but* it would take a little time for the chain of command to be reorganised, so we enact that—

"When a section leader becomes a casualty, two clear moves must elapse before the next in command can take over and during this period the section must remain halted. It may, however, if actually engaged with the enemy, continue in action".

So much for Factor (1)—Control—we can now consider Factor (2)—the question of Cover. It is quite apparent that troops enjoying the protection of some sort of cover will normally feel somewhat more confident than they would were they scattered about the middle of a large, open field. Thus we make allowance for both types of cover—the 'hard' and the 'soft'— and if perchance it happens that some of the section are in 'hard' cover, some in 'soft' and maybe some in the open, we quite simply take a sort of average. If more are under cover than are without —then we consider the lot as being in the first category. If the reverse is the case, then they will have to do without the advantage provided by the cover. One point relating to cover concerns troops who have just been flung out of or who have escaped from a half-track or other vehicle destroyed by enemy fire. As we know, survivors of such an event are placed next to the vehicle (overturned to signify that it has been destroyed), on the side away from the enemy. This cannot, in the first instance, be considered as cover for these chaps. What really happened was that they jumped out from every possible exit, and while this was taking place many of them would be under fire, and in the open, as they scuttled round to the 'safe' side. Now for the details. For troops in soft cover, neither addition nor deduction is made to the Morale Rating. If the troops are in 'hard' cover, *add* 1, and if they are, unluckily, in the open, 1 is *deducted* from the total. This seems fairly straightforward, so we can go on to deal with the 'communication' factor.

This—'communication'—will refer to either personal contact or by means of radio. In the case we are discussing, as the infantry section I use is without radio, it obviously applies to visual or personal contact—or vocal if you like. If then, a section is out of sight of its headquarters, either by reason of terrain irregularities or through poor visibility, and its Morale Rating has to be established, 1 is subtracted to allow for this disadvantage. I would stress that this deduction is made within the framework of the rules applicable to the organisation as already set down, and is merely a basis for any wargamer who decides on something different, and who may, for instance, allocate R/T—possibly a man with a limited range "walkie-talkie" sort of thing—to every infantry section. If such were the case and *he* became a casualty, then the deduction of 1 would have to be made. This radio operator would naturally have to come under the rules for obtaining radio contact with his 'control', presumably the Headquarters Company, and if he failed to do so, then—No contact, and minus one.

On to Factor (4) then—the effect of casualties. Obviously, with different players having possibly varying unit strengths, this will have to be a proportion rather than a specified number of men. The loss of one man, as I have pointed out—probably unnecessarily—will have more effect on a small unit than on a large one. Therefore, if we work on a proportion of the whole, we say that, if one quarter of the rank-and-file strength of a unit has been lost, 1 is deducted from the Morale Rating, and, if a half is gone, then 2 has to be similarly subtracted. For example, in our section of 8 other ranks, if two men become casualties, 1 is deducted, and if 4 have been removed from the table for the same reason, then 2 has to be taken away from the total. In practice it will be found that the loss of fifty-per-cent of a group's effectives will almost always result in the group's being written-off as an effective military entity. If your section numbers 10 rank-and-file, three men would have to fall before the quarter proportion became applicable. In other words, I suggest that the odd ones be ignored—otherwise one's calculations become too involved.

Finally, we have the rather special case—the one involving the destruction of transport—Factor (5). This operates on the move succeeding that in which any troop carrying vehicle has been destroyed by enemy action. When the Morale Rating is taken, a deduction is made—only during this particular move—of 1—to simulate the shock and so on of the vehicle's being hit and the consequent unnerving scramble out to comparative safety.

So much then for the practical details of the various factors influencing morale and behaviour in a group of wargame soldiers. In Part XXVI we shall see how the system operates and shall look at one or two illustrative examples.

BATTLE

by Charles Grant

PART XXVI

The 'Morale' rule in operation

A view of a combined advance of tanks and infantry.

IT SHOULD NOT take too long to describe just how the Morale Rule works—a few words, and one or two individual examples of situations in which it will have to be evoked should suffice.

As has already been stated, experience has shown that every unit finding itself susceptible to a morale rating starts with a total of 10, and this will vary by reason (a) of a dice throw which adds the imponderable or unpredictable, and (b) of the various factors concerning protection, number of casualties already suffered, etc., which have already been discussed. Right then, as soon as the situation has arrived when a morale rating has to be ascertained—that is, when casualties have been suffered, or the transport of the section we are considering has just been destroyed—then a throw of a die (this sounds a trifle pedantic, but is really the correct singular of the plural 'dice') has to be made, and the result added to the 10 with which the unit commenced. Indeed the 10 is the constant, altered only by subsequent factors. These are quickly totalled and subtracted from —or in one case, added to—the sum of the original 10 and the dice throw. If the final result be 10 *or more*, then the morale of the group being considered is O.K., and it can carry on with whatever orders it may have been given. If, on the other hand, the final Morale Reaction Total is less than 10, then the circumstances change dramatically, and for some time, at least, the section will be out of control of the 'general' or, if you like, the player. What happens then remains to be seen, but first let us take a look at a couple of examples to illustrate our system.

Let us consider a section of infantry advancing—on foot in this case—towards some objective when it comes under enemy artillery fire, the section, that is. Let us assume that the men composing the section are proceeding along a road with open fields on either side, and cover is therefore conspicuous by its absence. On the particular move during which the enemy brought fire to bear (no casualties had been suffered previously) an officer and one man were hit, and had to be removed from the table. This would be quite a blow and, following our rule, before the remainder of the section can continue its advance, the Morale Rating has to be tested. With the 10 in hand, as it were, a die (ordinary type, numbering 1 to 6) is rolled, and it turns up no less than a 6, giving, obviously, an initial total of 16 (a very satisfying result for this particular wargamer). But now for the deductions, of which the first, we remember, is *Control*. This at once gives the first 'minus'. The officer was a casualty, so 1 is deducted. *Cover* is the next consideration, and again our people are in trouble —on a road, fields on either side. Consequently, as they have to be rated as being in the open, another 1 has to be subtracted—so far, two down. The third, *Communication*, follows, and here I assume that the section is one in my own setup—no radio, in fact. They are also some considerable distance away from the H.Q. Company, and so must be deemed as being 'out of touch'. Yet

another ' 1 ' to be deducted, making a total of 3 altogether. Rank and file *Losses* have to be considered next. There was only one, we recall, and as that does not make up the quarter of the establishment, no deduction on this count is necessary (had *two* been lost, that would have been a different story). Finally, the penalty for loss of transport does not apply, the section having already ' debussed ' before beginning its advance. Summing up then, the deduction to be made is not too bad, in fact being 3, and, taking this from the 16 already recorded, the final and satisfying total is 13, well in excess of the required 10, and the unit is still in good spirits. Of course, as has already been laid down, this particular section would have to stand fast for two moves until the second-in-command took over. Remember the business about officer casualties ?

So much for the first example: now for the second. Again using the infrantry section as a species of military ' guineapig ', we assume it to be in a half-track in the process of moving into a farmyard, which is surrounded by stone-built walls and barns, prior to the men getting out to occupy the buildings of the said farm. It—the half-track—has just entered the yard when a hidden bazooka team lets off a well-aimed round which destroys the vehicle and accounts also for no less than three men (not including the officer). The survivors, of course, are placed next to their destroyed vehicle, away from the direction whence came the enemy fire (not that this mattered in this case, as the jubilant bazooka team—for the sake of the story—pulled out forthwith and disappeared).

What have we got now ? Again, naturally, we start with the initial 10, and with this in hand, in a manner of speaking, we roll the one die. This turns up an exceedingly feeble 1 ! Adding this to the 10, we get but 11—not so good. Now for the deductions, of which the first—*Control*—does not have to be made, the officer being still alive and kicking ! The second—*Cover*—requires a little thought. As has already been stipulated, the vehicle does not provide cover on the actual ' debussing ' move, but we must not forget the stone walls of the farm buildings. These are close enough to afford the men considerable ' hard ' cover, so—*plus* 1 in this case. Third factor—*communication*—a minus here, as the walls and so on which on the one hand afford protection on the other effectively screen our section from the H.Q. Company, and, there being no radio contact—minus 1 is the effect. Now for *Casualties*. Three men were lost in the ' brewing-up ' of the half-track—this constitutes over a quarter of the section's establishment, so minus 1 again. *And*, the morale rating is being taken on the move immediately after the vehicle's destruction, so again minus 1. Summing up the plusses and minuses, we have plus 1 and minus 3, which by a bit of artihmetic, and working on the 11 we had to begin with (including the dice throw), gives us at the same time a severe shock and a total of only 9 ! This, as has been pointed out, indicates that the section is of poor morale at this particular moment, and will not for the time being at least carry out the orders it has been given. What happens we shall see in a moment.

The two examples given should provide a fair indication of what the morale business is all about. Sometimes it might be found necessary for a third opinion to be called in to arbitrate between two players on some point providing disagreement, say, whether a unit is in cover or not, or how near the cover must be to give adequate protection. The question of visibility is easy—it should have been determined at the outset of the game by dice throw. Generally speaking, if a situation is treated logically and with some regard to what would have happened in ' the real thing ' not a great deal of difficulty should be experienced in dealing with morale.

Now for what happens when the Morale Rating is, as happened in the second example we gave, a ' bad ' one. What would probably take place in those circumstances ? It seems highly likely that the men involved would simply ' hit the deck ' and remain there until they had gathered their wits about them and decided just what they were going to do, either to extricate themselves from a difficult position or carry on with their designated job. This is precisely how we operate on the wargame table, and we stipulate—making another rule to be added to the list—that—

> " When a unit or section has had a bad morale rating following casualties, then it will remain halted in the position occupied for one clear move."

In brief, if we say that the casualties were suffered on Move 4, then before Move 5 can take place, the Morale Rating must be ascertained. If it is ' bad ', then on Move 5 the unit remains halted. Simple, really ! And how do they recover ? Again a Morale Rating must be made, and the die rolled once more. In the case of our second example, anything but a throw of 1 would restore the morale, provided no further casualties have been inflicted and the other factors also remain unchanged. There is thus a pretty good chance that the section will be all right. If so, then it simply carries on with what it was doing. If, however, for some reason—another dice throw of 1, or through additional casualties, for instance—the Morale Rating is again less than the required 10, then the unit, having suffered two successive ' bad ' Morale Ratings, is in a much poorer way, and this being so, it must now begin to fall back, and it retires its normal distance on this move. Again, before the next move, it requires yet another Morale Rating, and if this be ' good ', the retreat stops and the section may, on the following move, retrace its steps if so desired. *If not*, back it goes yet another move and this process is continued until the unit has had *five* successive bad Morale Ratings, this entailing the first ' halt ' one and four withdrawal moves one after the other. When this happens, it must be assumed that the section or unit is in such poor spirits that it is no longer fit for action and must continue to retire until it has actually left the wargame table.

All this has applied to the standard infantry section—or what is *my* standard section—but the system operates similarly with any other group, the separate sections of the Headquarters Company being assessed individually in exactly the same manner.

I hope all this has been reasonably clear, but at the same time I must point out that what we have considered is merely a *basic* morale rule, which can be readily adapted to individual taste and circumstance, and additions to it can easily be made. One immediately suggests itself in the case of a retreating infantry section's being ' rallied ' by a senior officer, say when the battalion commander attaches himself temporarily to a group falling back. Obviously his presence would have—it is hoped—the effect of restoring morale. We might say then that, should the battalion commander be present, an addition of 2 might be made as an additional factor when the Rating has next to be made. It might be that this would bring a ' shaky ' rating up to the necessary 10, and allow a group to get back into the thick of things.

Many other circumstances can readily be considered, but they are really for the individual wargamer to decide and he can get tremendous fun and satisfaction in doing just that.