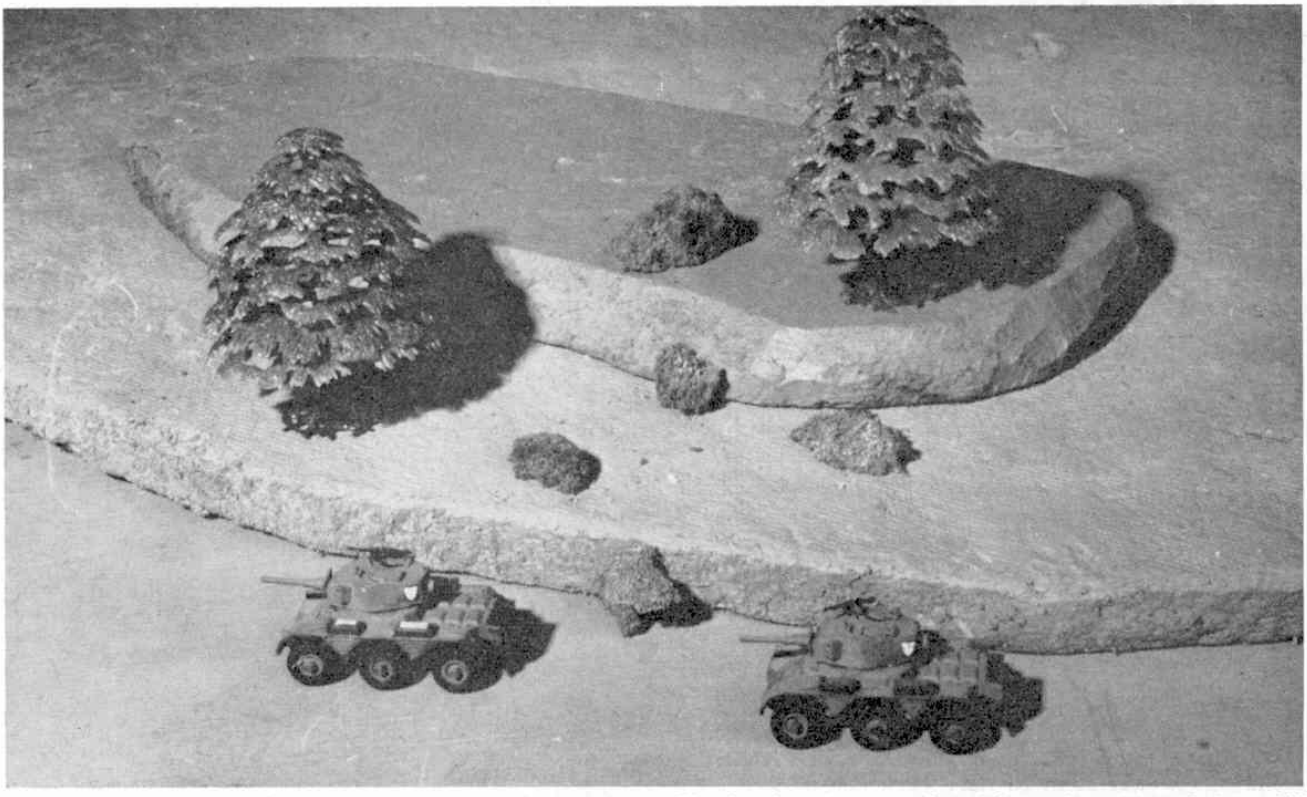


Showing how ' contour boards ' can be used to indicate hill levels.

BATTLE by Charles Grant

Part XXVII

The effect of Terrain

UP TO THIS POINT we have not considered the effect that different types of terrain have on movement—and consequently on tactics—other than to note the primary rule which laid down the different moves for vehicles on roads and across country. It was obvious, naturally, that movement on metalled roads was much easier than it was through scrubland, across ploughed field, through marshy ground or what have you. Now we shall have to extend our horizon somewhat by considering other sets of circumstances in which varying types of ground or terrain features will have an effect on the movement of troops and their vehicles, for it is apparent that both the people fortunate enough to be carried about in half-trucks, trucks and so on will be just as involved as those who have to be content with getting about on ' shanks's pony '.

What we shall do, then, is to take certain prominent terrain features—the principal ones which influence tactics—and consider them from two points of view, first, the most convenient way to reproduce them on the wargame table, and second, just how rules will have to be created to cope with their presence thereon. These features are not terribly numerous and in fact we can reduce their number to but three, although I

realise that they can be added to in many ways by the player who would like more subtle differences in his terrain. Those dealt with, however, should be sufficient to cope with most occasions when we have to reproduce some specific area of map on the table. The three are as follows: (1) hills, or any sort of rising ground; (2) woods, and (3) rivers. Here it should be stressed that what is being looked at is something pretty definite and substantial and which will have an appreciable effect on troop movement. For example, when we think of a ' hill ', we don't mean a gentle sort of rise from ground level, but something of sufficient gradient to cause some slowing down of the speed of the troops or vehicles climbing it. With this in mind we can continue with the first part of our discussion, to wit, just how it is proposed that we create the necessary pieces of equipment for our wargame, and how far we are going to go to achieve a pictorial or dioramic setup, if you like.

Let us then have a look at the question of hills, then, and before anything else is said, I have to point out that my own approach—and that is what I'm writing about—is a purely functional one. There comes a point, in relation to the realism of one's scenery, where the wargamer has to make a decision, an important one, but one which can be decided only by personal taste and inclination. This is whether to adhere to a ' functional ' type of approach—mine, in actual fact —or to ' have a go ' at a more decorative and pictorial sort of thing, something I can liken to the model railway background idea, where great efforts are made to build up a completely realistic stretch of scenery, with every detail of landscape minutely simulated. Now, I have no option but to agree that it is extremely satisfactory to wargame over terrain which has been made with this ' dioramic ' idea in mind, with tree-clad hills, waterfalls and rivers, tiny houses, all created with painstaking thoroughness so that the finished article would suffice for any film ' backdrop '. Very nice so far as it goes, BUT there are several disadvantages, of which the first is that the more realistic the ground, usually the more unwieldy it becomes, depending upon how it was constructed. What I mean is this. Once upon a time (to coin a phrase), when I was a bit of a devotee of this sort of technique, I constructed some really elaborate pieces of battlefield scenery, using the time-honoured method of having squares of hardboard of varying sizes as bases. The method of construction is well-known, and is briefly that blocks of wood of different heights are glued to the hardboard base, covered with strips of glued paper until the whole forms an irregular surface, with the paper—hardening as the glue dries—forming an uneven sort of hill. The thing is then covered with a thin layer of plaster of paris, which, when set, is painted in the appropriate colours, green, brown and so on. When a number of such pieces are placed on the wargame table, there is no question but that the result—if care has been taken—is highly spectacular and looks good from any point of view. The disadvantage—the unwieldiness I referred to—is that one tends to over-emphasise the features being created—hills are made too high and steep, and human nature what it is, there is a tendency to over-employ certain favoured pieces of terrain. I recall, during this phase, that, with much labour, I built a high mountainous affair, two peaks with a pass between them, the top rising to something like eighteen inches from ground—or table-level. When in use, this had a seemingly fatal fascination for wargamers, and possibly because it looked too good not to fight over, the most unlikely scraps took place upon it and up and down the gorge. Anyway, what with all this fighting, it rapidly began to acquire a rather " tatty " appearance, fragments of plaster flaking off and holes being punched in the surface by over-eager fingers. There are always strong domestic reactions at the sight of powdered plaster being trodden into carpets and so on all over the house.

One other minor point might be noted is the one of storage. These plaster covered terrain pieces have to be put away with some care and take up a fair bit of room, this not always being a practicable proposition.

Furthermore, if you have, for example, a square of 18 in. sides covered by some particular type of hilly ground, this can be used for no other purpose than the one applicable to its specific construction.

It is for these reasons given above, and probably others, that for some time I have used another method of making up battlefield terrain from the point of view of hills, this being one which oodles of practice suggest is by far the best proposition. As a matter of fact, it will be found, too, that a little attention can ensure that it is not without scenic merit itself. Fundamentally, what we do is this. We take an ordnance survey map, or any other type whereon heights are shown by contour lines, and with this as a kind of inspiration, we bring the contours to life, as it were, by reproducing them on our wargame table by showing them as corresponding shapes cut from some suitable material. This can be inch-thick insulation board (half-inch will suffice, although this thickness can be doubled for use quite easily). This material can be readily cut to any desired shape—round, oval or indeed any irregular form (hills are not always perfect circles in area) and these can be used over and over again in many different ways. The photograph shows how these shapes appear—note that a little " chamfering " of the edges does enhance their appearance somewhat, and one ' shape ' can be placed upon another to represent increases in height in exactly the same manner as do the contours of a map (each contour usually represents an increase in height of 50 metres over its outer neighbour).

The ' contour shape ', it is apparent, gets full marks for convenience—both from the actual wargaming point of view and for its ease of storage between games. Certainly, as I hope to show, they are functionally highly suitable for any sort of wargame. Anyway, there you are—the choice is with the reader. You can either have the very dioramic and pictorially very attractive pieces of terrain I have referred to above (they can now, of course, be made by the simpler process of using commercially produced plaster-impregnated material to cover the blocks of wood on the hardboard), or to use the more convenient, and not necessarily ill-looking-contour shapes, which are more than adequate in use, are convenient for storage and for adapting the table terrain to the requirements of any particular engagement which might be on hand. Naturally, the more ' shapes ' one has, and the greater variety that might be available, the easier it is to set up an interesting game or to reproduce on one's table a section of an actual map over which to fight. There are all sorts of ways by which one can add to or alter one's contour shapes. Should they have been cut from one piece of insulation board, two or more can be fitted together to provide a large area of rising ground, and, as can be seen from the photograph, the judicious addition of pieces of lichen—representing low bushes —as well as trees, can result in a very realistic sort of appearance. It is with the subject of trees—and then with rivers—that we shall presently deal.

Finished Dinky Toy Spitfires being inspected and tested at the end of one of the Assembly Lines.

top end of the Line and, at each station, a specific component is added or a special operation carried out. Wheels and axles are fitted to bases; bonnets, boots and interiors, etc., are fitted to bodies; bases are mated to bodies, and so on. The toy, in short, gradually takes shape as the castings progress down the line.

Before the end is reached, not only assembly is completed, but the models are also closely inspected and tested, then boxed and the boxes themselves wrapped in packs of four or six, ready for selling. These " outers ", as the packs are called, are passed through to the Stockroom, from where they are supplied as orders for them are received. The Stockroom itself covers a huge area and is a collector's paradise likely at any time to contain hundreds of thousands, if not millions, of pounds worth of Dinky Toys and other Meccano products.

Contrary to many people's vague impressions, the Meccano works in Liverpool is not a sort of legendry toyland inhabited by old red-coated gentlemen with long white beards, patiently turning out individual toys to order. Instead, it is a typical up-to-date in dustrial concern making full use of modern mass-production techniques. We have seen here, for instance, the tremendous amount of work and equipment; the advanced methods and the large numbers of people involved in making a new Dinky Toy and, of course, all the preparation work is the same for any model, no matter how many examples are required. Naturally enough, complete production costs vary from model to model, depending on individual complexity, but it is safe to say that anything from £10,000 to £15,000 must be spent before even one model can be made. Unless you have an awful lot of money to spend, therefore, do not expect Meccano to be able to make a " one-off " model specially for you!

BATTLE by Charles Grant

PART XVIII—MORE ABOUT TERRAIN

IN CONSIDERING THE SECOND of the terrain features we listed in Part XXVII—the wood—we concern ourselves initially with its composition, which, not surprisingly, is ' trees ', in varying number, and we now have to decide on how to make the said trees and the best manner in which they may be used to indicate a forest, wood or copse. The individual tree may be acquired in two ways, the first, by constructing it oneself, the second, by purchasing same. Let us deal with the first, then.

Now, I'm not going to say that what will be produced bears any accurate relationship to any known botanical species, but it is most assuredly identifiable with that growth comprising trunk, branches and foliage, and it is made in this way. The first requirement is four or five lengths of wire—they need not be enormously thick, but should be sufficiently strong to maintain any shape they may be bent to assume, and at the same time pliable enough not to make the tree-making a hand-lacerating job. The lengths of wire—bearing in mind that we are dealing with a scale where the average man is less than an inch in height—should be about five or six—not more than seven inches—long. They can vary a little among themselves. These wires are twisted together for something like a half of their total length, leaving about ½ in. free (untwisted, that is) at one end and something like 3 in. at the other. If the process is a little hard on the fingers a pair of pliers—or two pairs, really, are better, twisting in different directions, and will make the job much more easy. The shorter loose ends are splayed out as flat as possible—they represent the ' roots '—and at the other, the longer ends are bent about irregularly, and they of course will be the branches.

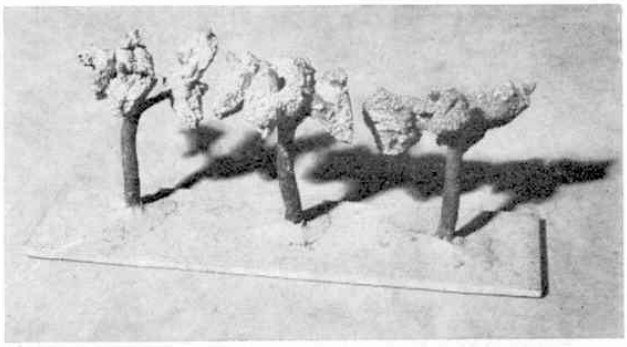
So far, so good, we have at least the ' skeleton ' of a tree. For added security and firmness, a length of Sellotape can be twisted around the trunk, although this is not really necessary. The ' trunk ' and ' branches ' are now covered with a thin layer of plastic wood—a messy job, I find, but an essential one

—and when the result has thoroughly dried, one gets to work on the foliage. This is done by begging, borrowing or just committing plain domestic theft to acquire an old rubber sponge. This is fiercely attacked and torn into small pieces of different sizes, but round about an inch thick generally is about right. The pieces are now soaked in liquid glue—the office stuff in a bottle is fine—and when well and truly permeated with the liquid (again a trifle messy) the piece of sponge is attached to a branch of the tree to represent the foliage. If the branch can be poked through a hole in the 'foliage', so much the better. It will adhere more securely, and looks better. The tree is then fixed to a base, and this can be just what the individual wishes—a small piece of hardboard, or a thick card are both perfectly adequate, although I have used myself a square of plywood. One can usually pick up 'offcuts' at the local hobbies shop. Fixing to the base—hardboard or plywood—is done by covering the wire 'roots' with plastic wood and pressing this onto the base, moulding it to give it a better appearance.

One can have one tree on a single base, or a number placed together on a multiple one, but I would offer one word of warning. It is unwise to take a square or rectangular base and cover it thickly with trees—although the results will be effective from a purely scenic point of view. The snag will arise in a wargame when it becomes necessary to move, for example, a section of infantry through the area—fingers get caught in the 'trees', troops fall over and can be extricated only with difficulty (plus curses) and the entire wood might be swept into the air as a branch gets caught on a sleeve or cuff, and tempers fray easily when such mishaps take place. It is far better to have the trees arranged in rows—two, three or four trees per row, or possibly more. To make the wood is then dead easy, one simply arranging as many rows of trees as may be necessary to form the desired circumference, with single trees placed here and there within just to show that it *is*, in fact, a complete wood. It is not necessary to place a lot of trees inside the circumference, as the same will happen as did with the wood on a complete base. As we shall see, rules for movement through wooded areas are just as easy to operate—in fact easier—in such a wood as I have described than in something which is a solid mass of foliage, branches and goodness knows what else.

Now, for the wargamer who does not wish to make his own trees, the problem has an easy solution, of course. He just goes out and buys them. There are several firms who produce most suitable trees for wargame purposes. The old and famous concern of Britains Ltd. has some extremely fine and realistic examples in plastic—they are built up branch by branch and look really fine, but they are, in my view, much too large for use in our scale, being rather more appropriate to the 54 mm. size of figure. They come rather expensive as well. Probably the best, although even in these days they cannot be said to be cheap, are those by the firm of Merit Ltd. They consist of three species, the alder—my own favourite, as readers of "Battle" will have seen already—the poplar, and the fir. Rocco (Minitanks) also make fir trees. The Merit trees are of softish plastic and can be bashed about without much risk of damage. Treatment of these commercially produced trees is exactly as for the home-made ones, although, as they are light, a simple card will suffice for the base. The photographs show the differences in base material, and also the arrangement of two on the same base.

Third, and last, of the terrain features for consider-

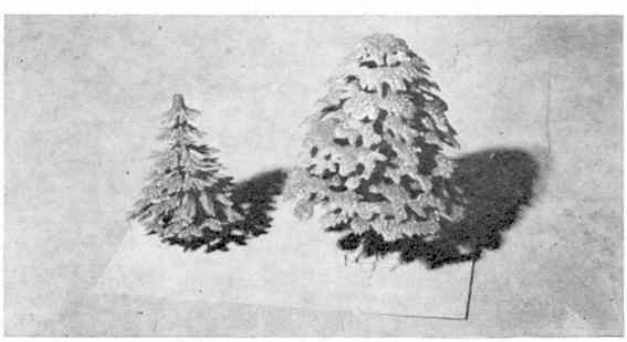


Home made trees—of an indeterminate species—mounted on a plywood base.

ation is the river. Again, it will be no secret to readers that I prefer the commercially produced article—in point of fact the Bellona river sections, or to be more accurate, the 'stream' sections. They are nearly 1½ in. wide—the actual stream part, that is—and as this, in our scale, is equivalent to 50 yards, I feel that this is normally sufficient to provide the obstacle we have to consider in our rules. True, one can make the most realistic rivers—I have done so myself, in the past—by using lengths of hardboard, angled at the end in some cases so that when joined up the resulting river can 'meander' a bit. 'Banks' can be provided by using plaster of Paris and the river course can be painted in appropriate colours—blue/green and so on—while a highly realistic appearance can be achieved by sticking crumpled cellophane sheet along the course of the stream. Indeed this can be done first, before the 'banks' are constructed, and these can be brought over the cellophane to assist in keeping it in place as it does tend to come away pretty easily. The plaster 'banks' are painted in suitable colours, green of various shades, etc. If desired, the presence of a ford can be shown by painting tracks leading down towards the river or by otherwise indicating the presence of shallow water. When fighting a wargame involving river crossings it is obviously of the greatest moment to seek out and locate as early as possible the points where a crossing may be made in safety. Incidentally, the Bellona stream sections can be purchased in straight lengths and curves and are by no means expensive. This is not intended as a plug, but it simply happens to be the case.

This is the procedure for producing or obtaining the terrain features we deemed as being of sufficient importance to warrant rules governing their presence on the wargame table. In Part XXIX we shall consider the application of these rules.

A commercially produced pair—an alder and a fir—on a card base.



BATTLE

by Charles Grant

Part XXIX
The effect of terrain on the rules

WHEN WE DISCUSS just how terrain can influence our wargame rules, I have to repeat yet again that the effect we consider will generally have to be a standard one. By this I mean that, when we place one of our 'hills' on the battlefield, i.e. the wargame table, we must perforce consider it as being of an average sort of steepness, if such a thing exists. It is not easy —although it is possible—to legislate for every sort of hill from the gentle slope to the precipitous cliff, and such an undertaking would result in a body of rules approaching in bulk the Oxford English Dictionary. Hills, obviously, come in every conceivable shape and size, but the more extreme can be readily ignored. The very slight slope which has little retarding effect on a man moving upwards on it and the totally inaccessible cliff are not necessary for our purpose. The latter can, of course, be catered for if required for some commando operation and such like, but this is not for us at the moment. What we want is a hill which, although it can be mounted by infantrymen without their having to drop on all fours, will nevertheless cause them to climb it at a rate notably slower than their normal progress along the flat.

Incidentally, it is only fair to announce that, as far as infantry is concerned, I have personally done all sorts of checking rates of ascent and descent—to see the writer rushing up and down various hills with a stop watch clutched in has hand was quite something.

Anyway, since we determined in Part XXVIII—a euphemism for my forcing my preference upon the reader—to proceed in the belief that the 'contour boards' described therein were the best means of reproducing hills on the table, we shall carry on in accordingly. If we consider our contour board in terms of a map, we shall find that on most British maps—the Ordnance Survey type—the contours represent an increase in height of 50 feet, i.e. the difference between two contours represents an increase in altitude of 50 feet. Let us say that our contour board has the same effect—one will then indicate a hill 50 feet in height, and two blocks, one on the other, will be a hill of 100 feet. To get the whole picture, this has to be considered together with the gradient of the hill and the effect it will have on movement. Perhaps the diagram —No. 1—will show what is meant. In our case the summit can be seen to be higher than 50 feet (it is not a plateau) but the edge of the contour can be taken as a very suitable spot where we can operate the delay resulting from the reduction in speed through climbing. The experiments (?) with a stopwatch I have mentioned show that a gradient of about 1 in 10 is a most suitable one for our purposes as it takes approximately twice as long to climb such a slope as it does to get over the same distance on level ground. This, I say again, comes from my own personal and fatiguing observations, but they are substantially accurate.

During a war game, then, if infantrymen are climbing such a slope—the one we have decided to take as a 'standard'—their speed will be halved, so that, instead of the normal infantry move of 3 in., it will, in fact be 1½ in. We have to express this in terms of our particular type of terrain, and the most suitable way of doing this is to say that, on the move during which a contour is crossed—in an upward direction, needless to say—the move is reduced by half. For example, when a body of infantry on foot arrive at the end of a move at a point 1 inch from a contour, then, on the next move, when they actually cross the edge of the block, their move is only 1½ inches. This means that, in this example, the infantrymen—1 inch from the edge, would be placed on the move half an inch in from the edge, making the whole move the required 1½ inches. Once over the edge, then progress on the contour is as normal. This curtailment of the move applies to all vehicles as well as the chap on foot. Take the case of a tank with a cross-country move of 8 inches. When crossing the contour—on the way up—the move would be reduced to 4 in. Naturally, if a road crosses the hill, then it would be the 'road move' which would be cut by fifty-per-cent. Downward movement is not affected by our gradient.

The second tactical consideration applicable to hills is its effect on visibility, it being obvious that 'what is on the other side of the hill' cannot be seen by troops at ground level. Again may I refer to Diagram One, which shows the assumed shape of our hill, which, although it is in fact a species of plateau, is for our purposes a rounded eminence with the peak roughly in the centre. If we put one of our 20 mm. figures close up to the contour on ground level, it is plain that anything *on* the contour and as close as a couple of inches would not be seen by the chap on the lower level. We ignore this, however, as our board is taken to have the shape as shown, with a clear field of view from the bottom to the top—up the slope, of course. It is when what is being observed goes *over* the summit that it disappears from view of someone at ground level, and being on 'the reverse slope' or in 'dead ground' it is quite out of sight.

We must decide what constitutes this 'reverse slope' in terms of our contours. As in Diagram Two a second and smaller contour may be placed on the first, but even without this, there is no problem. The actual peak of the hill or its summit can be marked simply, with a spot of paint, or maybe with some additional feature, such as a tree, a bush or what have you. Anything on the hill further from an observer at ground level—beyond the 'summit', that is,—is invisible, and militarily, the chap at ground level will be the worse for it.

It will frequently be the case, of course, that hills will not be round, but will be irregular or elongated into ridges. If this be the case, the ridge can be shown by drawing a line on the contour, and behind this, troops in numbers may be concealed.

A note concerning reverse slopes. They afford complete cover for any troops or vehicles, and these cannot be fired at by troops advancing up the 'forward' slope. The same applies to artillery—unless of course an observer is in such a position that he has the reverse

slope of the hill in sight and can direct his guns accordingly. Shells could be fired onto the reverse slope without direction, of course, in the hope that something might be hit, but this is pretty much a waste, and I feel that it is best if we lay it down that such firing cannot take place, and that, unless they show themselves at the summit, troops on the reverse slope cannot be fired at by rifle or gun. If, of course, the defender moves forward to the crest of the hill then he becomes visible and will have to take what's coming to him.

So much for hills, then, and we get on to the next terrain factor, to wit, woods. These we shall treat in the same way as we did the hill, by adopting a standard, and specifying that our wood is an area of trees spaced fairly densely. This is no copse we are thinking of but something which, taking trees, brushwood and undergrowth together, forms a pretty tangible obstacle to progress, particularly by any sort of vehicle.

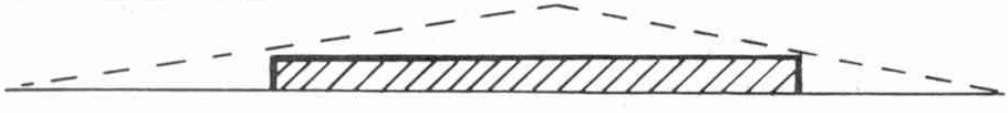
First, we rule in fact that any wheeled or tracked vehicle cannot operate in woods unless by way of some specific trail or road which may be indicated. Infantry may do so, but only under certain conditions. Due to the difficulty of making their way through the trees, etc, their rate of advance must be cut, and from 3 in., their move becomes 2 in. Further, to allow for their having to be very well spread out to negotiate this difficult terrain, they must be the same distance apart —2 inches. So much for the move, what about their fire? Again, this must be limited by the trees and so on—visibility is naturally less and so is the field of fire. The rule then is that rifle range is halved, from 9 in. to 4½ in. and at any point within that range a ' 6 ' must be thrown for a hit to be made. Sub-machine guns—ideal for close fighting—are not affected, but heavy machine guns also have their range reduced by half—to 9 in. Within this range—one can take half the orthodox ' machine gun cone of fire ' as described under ' Infantry Weapons ' in Part XII and use this in woods—a 5 or 6 dice throw will produce a casualty within this curtailed cone.

Should it happen, and it is possible, that opposing troops clash in hand-to-hand combat in a wood, ordinary rules apply—players throw dice, higher is the winner.

A final practical point on woods can be resolved by the way they are made. This is the question of just what area is " wooded ", and the answer is best provided by the trees—the commercial type—shown in the photograph in Part XVIII. The card base can be taken as the exact area of woodland—anything on the base is considered as being subject to the penalties for moving or firing in woods. Simple?

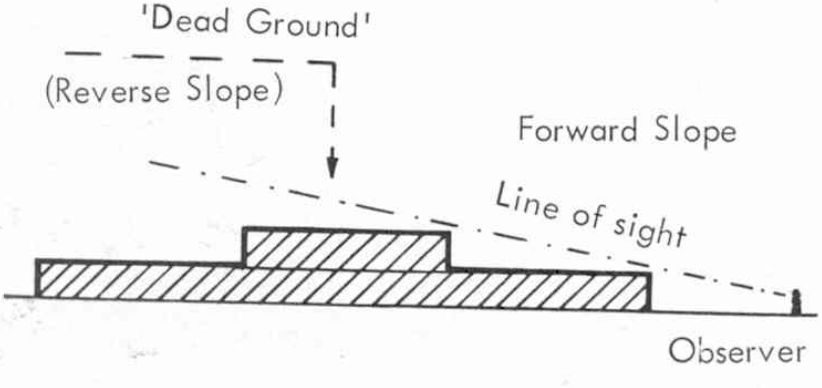
Rivers can be dealt with briefly. We are not at the present interested in pontoons or bridge-building engineers—all this will come later—but with the troops plunging into a river and getting across where no bridge exists. This requires some planning if the game is a spontaneous one with no campaign background, the simplest thing being to have two classes—one being the ' river ', which can be crossed only at fords—they must be identifiable—or by bridges, and the second being the ' stream ', fordable at all points by all troops, infantry or vehicles. If the encounter is part of a campaign than there is no problem, one reproduces on the table the details of river or stream, and the fords if any. Otherwise, the crossing can be effected where the players decide, and the time element is the important one as it will take up quite a bit of time. Experience shows that it is laid down that infantry—on foot—take two complete moves to cross a stream, this is about right. Artillery, and all sorts of vehicles must take longer, and four complete moves has been found to be appropriate. Of course, different types would take slightly different times, but this again is an average. The wargamer seeking refinements can readily allocate a different number of crossing moves to different vehicles.

DIAGRAM ONE



Shaded area - the contour block
Broken line - assumed shape of the hill

DIAGRAM TWO



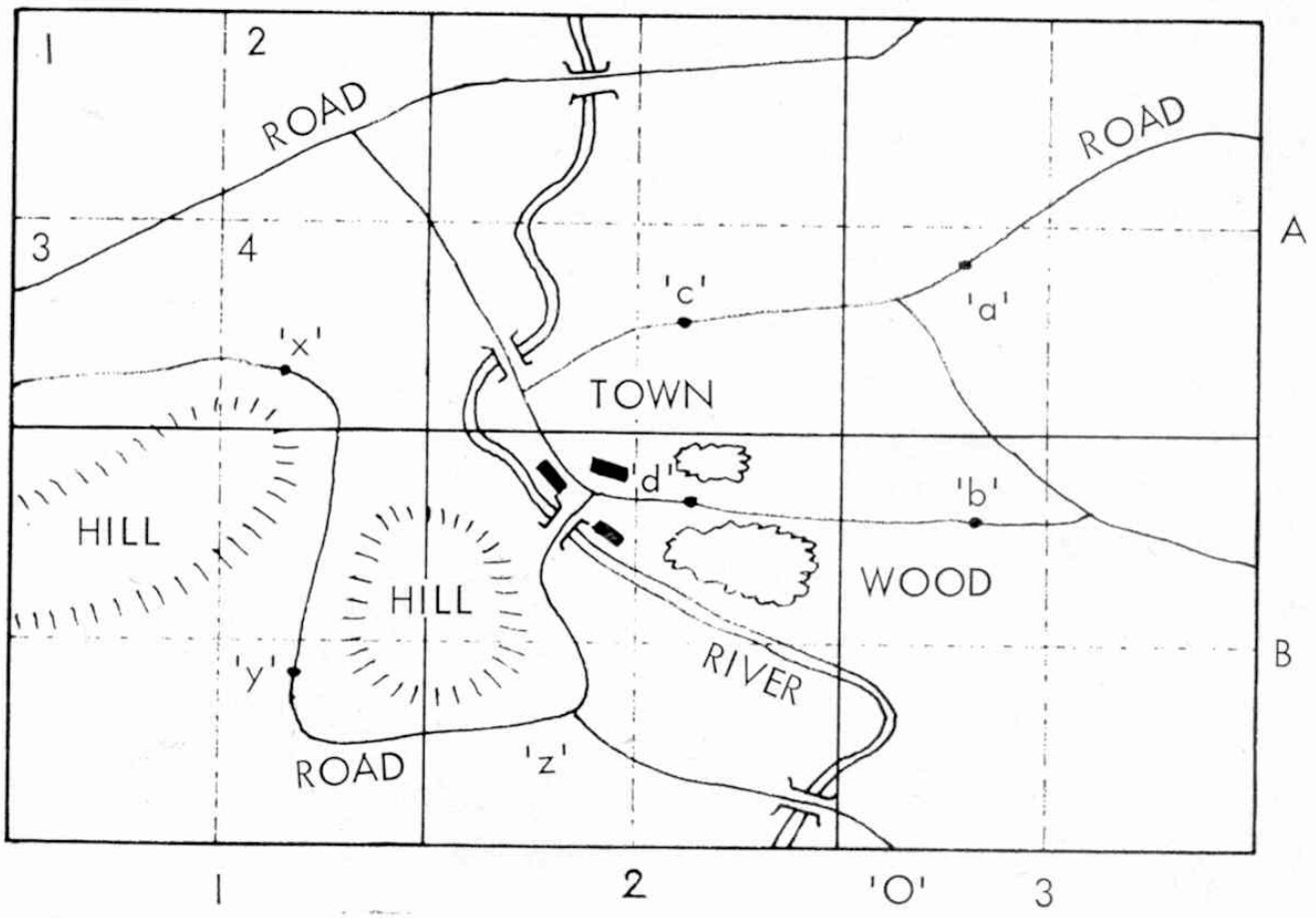
BATTLE

by Charles Grant

Part XXX—A beginning with maps

IT IS LOGICAL, I SUPPOSE, to proceed from terrain to topography, and it is with the use of maps in the wargame—or at least the elements of the 'art'—that I propose to deal now. So far, we have been concerned only with the action taking place on the wargame table, the purely tactical side of the business, and nothing has been said as to how the troops arrived there and, indeed, why they did so! The traditional set-piece engagement, in which the players array their troops on opposite sides of the table prior to setting about each other, has its limitations and sooner or later the time arrives when the player asks himself whether there should not be a little more to things than a straightforward coming to grips with what he sees opposite him. He realises that his overall view of the scene of operations (even allowing for the varying visibility factor) is neither a true nor a realistic one, and furthermore, it might occur to him that it would be a good thing were he able to divert a portion of his force on some wide flanking movement beyond the confines of the table and thereafter smite his opponent on flank or rear right lustily, with results devastating to the recipient of the operation.

All this is perfectly possible, as will be demonstrated, although inevitably some little preparation is required if one is to indulge in the strategical sort of wargame rather than the purely tactical one we have dealt with in the past. The first and obvious requirement, needless to say, is a map, or rather two identical maps, as it is much easier for each player to have his own, enabling him to mark out positions, movements and what not, without his opponent seeing his dispositions and penetrating his designs. It is possible to obtain commercially produced maps, some however being unsuitable in that they contain far too much detail for our purpose, or alternatively, too little, although if we are pushed, the latter is more preferable. It must be remembered that sooner or later a part of the map will have to be reproduced on the wargame table, and if a great deal of topographical detail has to be included the resulting clutter and confusion may well spoil the game. What we really want is simply something to



show the main terrain features—hills, rivers, woods and so on, and at the outset the less built-up area the better.

The problem, indeed, may be quickly solved by drawing up one's own map—not such a tremendous task as might be imagined—thus giving an opportunity to create some totally imaginary piece of countryside, but this is something we will take up a little later when discussing the broader aspects of the strategical type of game. In the meantime let's concentrate on the simple mechanics of operating what we call a 'map game'. It is quite an elementary business, really, and adds quite remarkably to the realism of the game and to one's enjoyment of it.

Let us start with a map then, and for the moment let us take the small section of one reproduced. Only the barest of essentials are shown, just enough to indicate how the process of moving troops is carried out. As will be seen, the map—admittedly a pretty barren piece of country—is 'gridded', the larger squares, those contained within the continuous lines, being easily identified by the grid references, for example, the top left square is A.1. Each of the large squares is divided again into four by the broken lines, they are numbered as shown in every case, and are again readily identifiable. The extreme top left small square will be referred to as A1.1, its neighbour on its right being A.1.2, the one directly below A.1.1 being A.1.3 and so on. The reason for the second grid will be apparent at once.

Now we shall consider the movements of two 'generals', whose troops are coming on to the map from opposite sides, one from the LEFT, the other from the RIGHT. As has been said previously, I find —certainly when fighting is taking place on the table— that simultaneous moving is desirable; on maps the reverse is the case, alternate moves by the players ensuring that no anomalous situations arise with people passing under each other's noses without realising that this is happening. Our first proposition therefore is that players move alternately. It will be found that, in the case of map moving, no undue advantage can accrue to any player by reason of his moving first or second—or at least very little can do so, and this sorts itself out as play proceeds.

A quick word about the distance of the moves as made on the map. I don't have to point out, I'm sure, that—just as on the wargame table itself—different types of vehicles have different moves, as do men on foot of course. All, however, whatever distance they are moved on the map—and this is a matter of convenience relating to the scale of the said map—are in exactly the same proportion to each other as are the table moves. For instance, a vehicle whose table move is 12 in., that is, four times the infantryman's move of 3 in., will have, on the map, a move four times that of infantrymen dismounted. At the moment this does not greatly matter, for we shall take, for the purpose of demonstration, opposing forces of exactly the same type with accordingly the same move. Getting on with it, we assume that player LEFT has first move, and that he has a couple of armoured cars, their task being to 'recce' as far forward as possible until they contact the enemy, RIGHT. So, having quite arbitrarily given the cars a move—on the map—of 1½ in., we see that LEFT has moved his armoured cars along the southernmost of the two roads in A.1, and as each sub-square is one inch square, the vehicles at the end of the move are at position 'x', and LEFT announces to RIGHT that he is in Square A.1. The latter has a little information at his disposal now—such as he might get from aerial observation—and is aware that the enemy is in a certain area, but he is without detailed knowledge of his strength and intention. So off he goes, *his* two armoured cars entering the map separately, one on the north road (in A.3.2) and one on the southern one (B.3.2). Both make the appropriate move—1½ in.—and *they* end up in positions 'a' and 'b' respectively. RIGHT then announces to his opponent that he is in A.3 and B.3, thus 'foxing' LEFT pretty considerably.

Now it is the turn of LEFT again, and his cars race ahead, reaching, at the end of the second move, position 'y', ths being announced by LEFT as 'B.1'. Things are becoming a little clearer from RIGHT's point of view. Previously he was in a bit of a quandary, not being certain whether his enemy was on the north road, heading for the river crossing at A.2.1, or on the south road, with a different objective. So he sends his cars forward on their respective roads until they reach the end of their second move, positions 'c' and 'd' and announces to LEFT his presence in A.2 and B.2. (Generally we refer to these announcements as 'contacts', although contact is not necessarily always made —it's just a phrase). Things are hotting up somewhat and discovery is imminent, and probably a confrontation as well.

LEFT's armoured cars proceed from 'y' and at the end of the move they reach the junction, position 'z', in the large square B.2. Now, since, for the first time, opposing forces have entered the same large square, to wit B.2, the moving player has to particularise rather more. As RIGHT had already indicated his presence in the square in question, LEFT must be more explicit, and has to announce both square and sub-square, which is in fact, B.2.3. RIGHT shakes his head and replies 'No contact'. Now, both 'generals' have a fair idea of what is going on (although neither will have any idea of his enemy's strength). LEFT, having reached 'z', knows that RIGHT is in the northern part of B.2, for, had he come in from the south, by 'O', he would certainly have reached 'z' by the second move. RIGHT realises that *his* enemy must be in B.2.3, as he could not have got further in the time, but he cannot say what the enemy destination will be.

The crucial move is the third, LEFT dividing his force and sending one of his cars to the bridge at B.2.4 (to secure the crossing) and the other into the town at B.2.1 to await the enemy. In so doing he states his presence in the exact sub-squares—B.2.1 and B.2.4—RIGHT, as we already know, being in B.2.2. The ball is now in RIGHT's court, and forward go his cars, one from 'c' to secure the bridge in A.2.3, and the second—with some caution it must be said— from 'd' towards the town, his intention being that the second car should, if possible, pass through the town and head southwards into B.2.3. Given a free passage he would probably get as far as 'z'. He therefore announces 'A.2.3' and 'B.2.1'. Were there no reaction to the latter call, he would follow it up with B.2.3, but a sharp cry of 'contact!' brings him up with a jolt. (Naturally, one has to follow, in announcing positions, a logical sequence showing the progress of troops. If he had simply given the destination, B.2.3, there would have been no reply, as LEFT had already moved out of this sub-square, and the whole thing would have been rendered null and void).

So we have finally arrived at a confrontation—the enemies are in presence—and in the next Part we shall see how each is discovered to the other and how this can be most realistically done.

BATTLE

by Charles Grant

Part XXXI—More About Maps

HAVING ARRIVED AT THE POINT where two opposing forces—the strength of each of which is unknown to the other—are confronted, we now have to set up the situation on the wargame table and proceed from there. Now, a glance at the section of map shown in Part XXX demonstrates that the confrontation took place in the vicinity of the village located in sub-square B.2.1, and this will be the point round which the remainder of the drama unfolds itself.

Before anything else can be done, however, the point concerning the relationship—scale-wise, that is—between map and table must be decided. That is to say, we have to decide just what the actual playing area represents on the map, and how much of the latter will have to be set up on the table. It seems more than likely that some sort of scale will already have been decided upon, and to make the thing as simple as possible, let us say that 1 inch on the map—this being the side of a sub-square, of course, represents a distance of 8 ft. on the table. By a strange coincidence, we find that the table in use is square, each side being 8 ft. in length, so it does not require much thought to see that the area of a single sub-square represents the exact size of the table we have in use. Now, if the contact took place in the exact centre of some particular sub-square, it would be apparent that all we should have to do is to set up on the table the terrain of that sub-square. The event, however, is not always so simple, and, as actually happened in our example, the centre point of the contact was well to the east side of the sub-square in question, so that it would make the action a trifle lop-sided were we to reproduce only that sub-square. What we want, to be fair to all concerned, is to reproduce part of one sub-square, B.2.1, and part of B.2.2. The procedure for carrying this out is not difficult and consists of using a small square of transparent acetate sheet or perspex, cut to the size of the table—that is, 1 inch square—and superimposing this on the map, by the elementary device of sticking a pin through its centre and then on to the point of contact on the map.

So far, so good—when the contact is made, and both players agree, then one sets up on the table the appropriate terrain, hills, woods, rivers, and so on, but with this done, one important thing remains. Here I am deliberately bringing in as many complicating factors as I can—and this one is the question of visibility. One need not at the outset deploy one's hardware on the table for the edification of one's opponent. A 'sighting' certainly has been made but the only troops involved are the advanced parties of either side, and if further forces are in attendance, the two 'generals' might well wish to keep this fact to themselves. The best way to cope with this situation, having determined visibility is by way of a second map, quickly drawn, to represent the area of contact, to wit, the area already laid out on the table. The handiest way of doing this is to have a board of the required size, already 'gridded' in ink or biro, and on this one draws in the details—taken from the table—in pencil (once used, these can be rubbed out and the 'gridded' square used again). Ideally, the grid lines should be ½ in. apart, this representing a 6 in. table grid, although in the illustration, the lines shown are those of a 12 in. grid—the idea being to save the extra lines and make the thing a little less complex.

Once the map is drawn on the gridded board, all that remains is for the players to get cracking. Each notes his map position *before* the move on which contact was made, and again the moves are made alternately, but this time, although the moves are again 'blind', in a manner of speaking, they are actually taking place on the wargame table, and consequently actual table moves—scaled down, naturally—are used. Since we were speaking of reconnaissance groups using armoured cars, then the move would have to be the equivalent of the armoured car road move which, as we know, was 24 in. On what we might call the 'close contact' map this, in the map/table scale of 1 in. = 24 in., would be 2 in. Right, so having decided visibility by the normal throw of the dice, and having determined that it is 30 in., we know that on the 'close contact' map this is in effect 2½ in. So on we go.

Giving LEFT first move, as in the preliminaries, his armoured car moves up from 'x' and reaches a point 2 in. ahead, arriving in square C.7 at a point indicated as 'y'. RIGHT now moves from 'a', his armoured car reaching 'b' at the extreme western edge of G.3. Both references are given by the players as they make the moves, but neither can as yet see the other (the distance for visibility is taken from square to square and if there is any doubt, from centre to centre of the two squares involved).

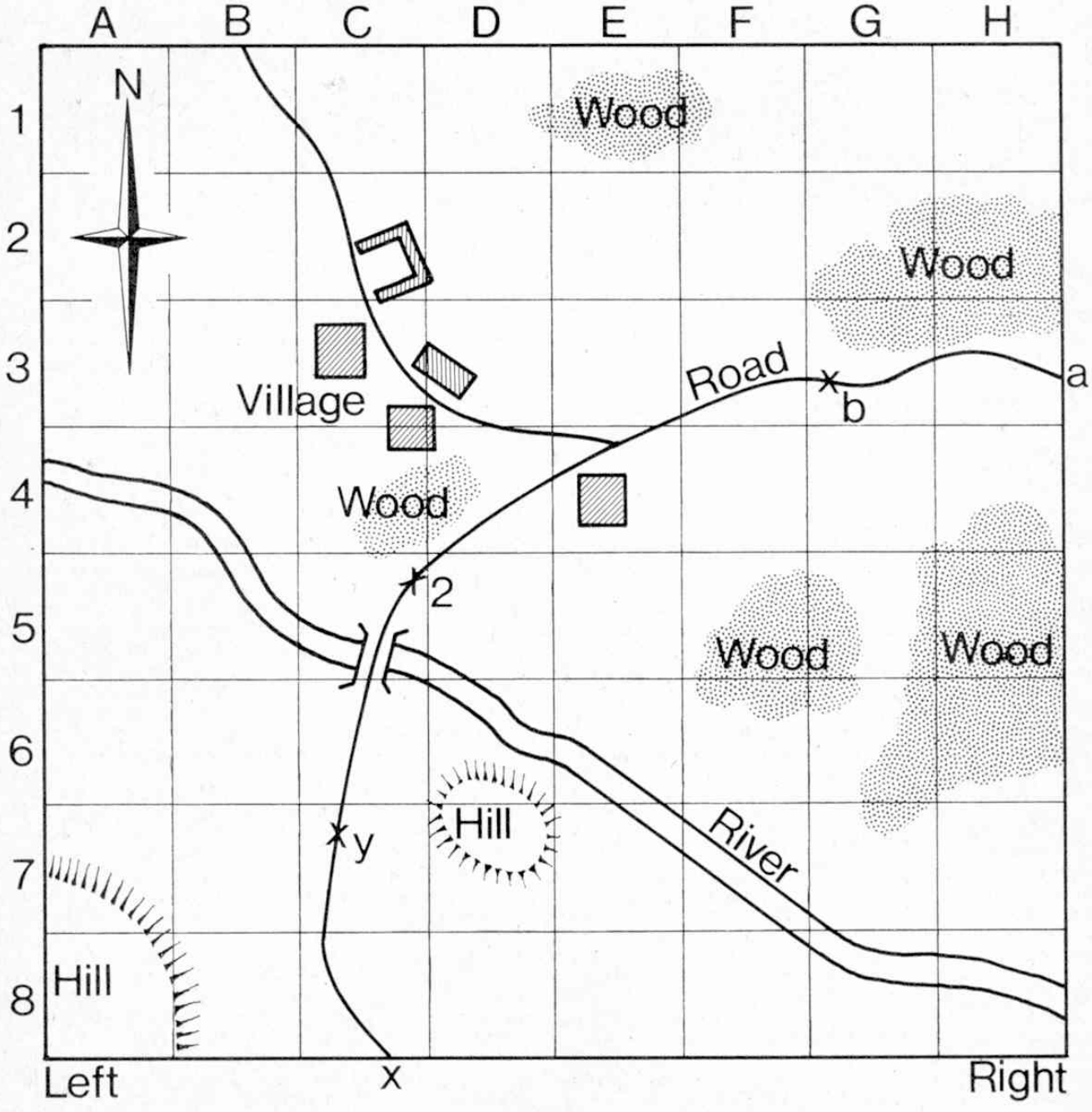
LEFT moves again, another 2 in., this putting him in square C.5, his position being shown as 'z'. Now, from centre of C.5 to the centre of G.3 is less than 2½ in., so obviously they have sighted each other and a declaration of position and strength has to be made by each player. Accordingly, on to the table would go two armoured cars, LEFT's being at 'z' and RIGHT's at position 'a'. From this point the battle may be joined and they can blaze away at each other to their heart's content.

Now, in the example we have just gone through—not too laboriously, it is hoped—there were no follow-up forces, but had there been any on either side, the squares containing them would have to be announced, of course, although naturally not what their composition was, at least, as long as they were out of visibility. So, if, for example, LEFT had a heavy tank or two following up a couple of squares or so behind the armoured car, RIGHT, although getting the grid reference for them, would not know what was in the particular square until they had moved up and been placed on the table, doubtless is gun range of the enemy armoured car.

Now I'm quite sure that the alert reader and student of the military art will have seen the possibilities now open to exploitation, for this use of the table/map is one of the means by which we can achieve tactical surprise on the wargame table. Let us, for example, suppose that the armoured car pushed forward by RIGHT was followed, at a discreet distance, by a tank which, instead of moving forward, took up a hidden position in the edge of the wood in H.3. Following upon the initial confrontation, let us suppose that RIGHT withdraws his armoured car, apparently signifying that discretion is the better part of valour. LEFT, elated at the retreat of his enemy,

follows up, pushing *his* armoured car forward, right into range of RIGHT's tank, which immediately looses off a shot at point blank range, with any luck writing off LEFT's car as a total loss. This naturally gives away the tank's whereabouts, and it has to be placed in position forthwith. All sorts of ploys are readily seen. If RIGHT had arrived at the village first, with infantry, shall we say, he could have filled the houses with riflemen, machine guns, bazookas, and so forth, and generally laid on quite a reception for his opponent. A player needs declare the composition of concealed troops—although he has previously given a map reference for them—only when an actual reconnaissance has been pushed right up to contact, or when the hidden guns or whatever come into action, thus revealing their presence. This applies when they are within visibility, this usually being the case, unless the hidden chap is an artillery F.O.O., when the action would be taken by guns possibly off the table.

All the foregoing has been concerned more or less with the formal procedure as it takes place, with both parties unwilling to concede anything and, for one reason or another, insist on the actually plotting of the moves on the small board. Many times, however, it will be found in practice that it is not necessary to go to such lengths when, for instance, the players are content to have simply a verbal statement of what is taking place. LEFT might say—"Well, I've an armoured car moving along towards the village, what have you got about?" RIGHT might reply to the effect that he, also, has an armoured car near the village, looking around to see what is afoot, but that he does not necessarily propose to do anything violent, for the moment, at least.



of the various weapons. This involved but a simple calculation, the multiplication by 3 of each required move and range. Thus, the infantry move became one of 9 inch—the dismounted move, that is—while those for the tanks became 24 inch and 18 inch for the Panther and Sherman respectively. (We assumed that there were no roads and all moves were therefore considered to be ' cross country ' ones). Ranges were increased in the same proportion, rifle range becoming 27 inch, the bazooka's becoming 24 inch, for instance, while the tank gun ranges shot up to something like an incredible twelve feet! Everything else, the deflection stick and so on, were as used for the ordinary table game, and although no specific cones of fire were constructed for the outdoor ranges for Machine gun and sub-machine gun, the effect of these weapons was quite successfully estimated. When dispute arose, an independent umpire was called in to arbitrate.

And so we began, the ' American ' player advancing from the south end of the lawn (i.e. the battlefield), and the ' German ' from the north end. It was at once decided—in order not to complicate things too much —that there should be no restriction on visibility, wargame-wise, and the players therefore had an uninterrupted view of many ' miles ' of territory. The first ' sightings ' did not take long in coming, and both opposing tanks opened fire simultaneously. Forthwith, there was an immediate halt to the proceedings when the dice were thrown and one promptly disappeared from sight in the grass. It was discovered after a prolonged ' cordon and search ' operation, and to avoid further mishaps of this nature, a small table was procured and set up nearby for dice-throwing purposes. The game then proceeded, both infantry groups coming up as fast as they could in support of their armour, and deploying—I daresay somewhat to their surprise—in the lush undergrowth. The comment was heard that ' a course at the Jungle Fighting School would do them a power of good '.

However, to the deep chagrin of the ' American ', his Sherman soon became a victim of the formidable Panther, and the latter went charging on dealing out mayhem and destruction in all directions, the American armoured car being its next victim. The bazooka team was lurking about in a small copse (for this read ' tuft of long grass ') and let fly a round at the triumphant Panther. As ill-luck would have it, this was a clean miss and before another round could be fired, the bazooka men were under fire from the S.S. riflemen, which did them no good at all. Putting paid to them meant the end of the fight for the Americans, their ' general ' being led away quietly, protesting about his ' rotten dice luck ', and that it was the last time he'd fight in the garden. That remains to be seen.

Waffen S.S. in action—pretty hard going in such a jungle !

Anyway, although it was lots of fun—one character dug little pits near the tanks, filled them with paraffin-soaked rags and set light to them, providing a realistic simulation of a tank ' brewing-up '—it could be seen that there were indeed quite considerable possibilities in this outdoor game. The room for manoeuvre, the extended moves, and so on were surprising, and with some more serious preparation, such as the construction of a few houses (or merely ruins) in the proper scale, the presence of a few trees (old wallflower plants are just the job), then a really intriguing and realistic game could be had.

Why not try it next summer ?

American assembly point—the Sherman about to move away from the other vehicles.