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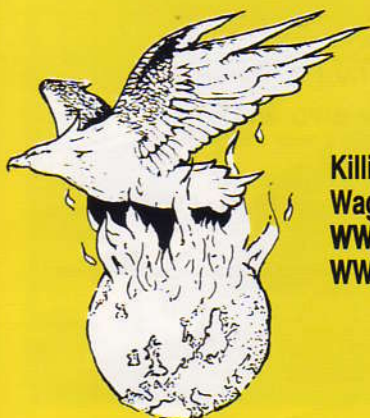
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AC	22	Union Drummer
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AC	25	Kepi Blanket roll, charging
AC	26	Kepi Backpack, marching
AC	27	Kepi Blanket roll, marching
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AC	29	Kepi Backpack, kneeling firing
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AC	33	Zouave, Fez, charging
AC	34	Zouave Officer, advancing
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INTRO

In this issue we include features on three demonstration games that will be "doing the rounds" of various conventions later in the year: Killiecrankie, Wagram, and – least famous of all – Berbera. (Every household should have an atlas!) It would be nice to make this a regular feature of the magazine, possibly helping convention organisers looking for such games to get in touch with would-be demonstrators eager to flaunt their artistic talents under the eyes of the wider wargames world. So, if you wanna 'strut your stuff' (God! you'd think I was writing for *Melody Maker*, wouldn't you?) – and you've got a good demo/participation game you'd like to advertise, let us know and we'll try and send along our ace photographer, Smudger Smith. If you haven't got a good demo game – thanks for reading the mag. anyway.

**DON'T MISS OUR MONTHLY MAGAZINE
WARGAMES ILLUSTRATED #19
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Front cover photo: Battle Honours 15mm Napoleonics – put on the front cover as a consolation to Danny Boreham, who drove about 300 miles to have 7 Indian Mutiny figures photographed for the Battle Honours advert – and then changed his mind & advertised 'Eaglebearer' instead!

Back cover photo: Abbott's Miniatures 25mm Zulus.

Menu

The ruling Junta of an obscure Banana Republic? – in fact they're members of the Norwich Warriors, controlling the Austrian forces at their Wagram refight. Pen portraits by Nic Morse, alias Archduke Charles. (top).

THE C.S.S. ARKANSAS

by Jonathan Carruthers

Introduction

Spring 1862 saw the Union closing its iron grip on the Confederate stronghold of Vicksburg – last link to their territory west of the Mississipi. Assembled before the city was a powerful fleet composed of ironclad gunboats under Davis who had fought their way down from Cairo, Illinois and a saltwater squadron under Farragut which had fought its way upstream from New Orleans. This fleet cut off Vicksburg from supplies and allowed Grant to transfer his troops from bank to bank without interference.

Confederate attempts to break this naval stranglehold had been chaotic and inadequate. Union dominance was hardly disturbed and when, in June, rumours began to spread of Confederate attempts to construct a new warship on the swampy Yazoo river they were not unduly worried. On June 15th Davis despatched the ram *Queen of the West*, the ironclad *Carondelet* and the wooden gunboat *Tyler* to investigate. What they found was the *C.S.S. Arkansas* under the command of Captain Isaac N. Brown.

Building the Arkansas

In May Brown had slipped out of Vicksburg and made his way to Greenwood, Mississipi on the Upper Yazoo to assume command and attempt to break the Union blockade. He was met by a depressing sight.

The *Arkansas* was not a ship at all but a half submerged hulk with her dismounted guns strewn about the deck. The railway iron intended to provide her with protection was laying at the bottom of the river and no crew or working party had been assembled. Brown, an ex-navy regular, set to with a will. Commandeering the steamer *Capitol* he spent a day fishing for the sunken iron and storing it aboard the hulk. As the ship lay four miles from the nearest dry land and the surrounding area was primitive swamp Brown decided to tow her 160 miles downstream to Yazoo City. Here, within six hours steaming of the Union fleet and in sound of their guns bombarding Vicksburg, Brown set out to fashion himself a warship.

Two hundred men from a nearby infantry regiment were conscripted to provide a working party and the superstructure was cut down. Fourteen blacksmith's forges were brought in from local plantations and set to work. It soon became clear there was not sufficient iron and agents were sent out to scour depots for more lengths of railroad track. This was shipped to the nearest railroad station and then hauled 25 miles by wagon. The rails were fitted to bolts prepared by the infantry. This work was carried out in a 100 degree heat and in less than five weeks from start to finish. The water level of the Yazoo was falling rapidly and if Brown was to navigate the river and enter the Mississipi he would have to cut short his preparations and leave at once. There was just enough time to cover the angles where the railroad irons met with thin sheets of boiler plate in the hope they would fool the enemy. The engines – twin screws – were thought to be able to make about 8 miles an hour with the current, but there was no time to test their performance.

The *Arkansas* now appeared cut down to the waters edge with a shed amidships covered by one foot of timber and a layer of railroad iron. This shed sloped at an angle of 35 degrees. Brown hoped the acute angle would deflect enemy shots. The pilothouse was raised one foot above the shed and a single smoke stack rose above it. The shed was pierced for ten guns. Each broadside consisted of two 100pdr Columbiads and a 6 inch naval gun. The bowchasers were two 68pdrs and the stern mounted two 32pdrs.

Brown now put together a crew. he had already assembled a nucleus of ex-navy regulars and 100 survivors of previous actions on the Mississipi. The remaining numbers were made up of volunteers

Map showing battle scenes of the Arkansas.
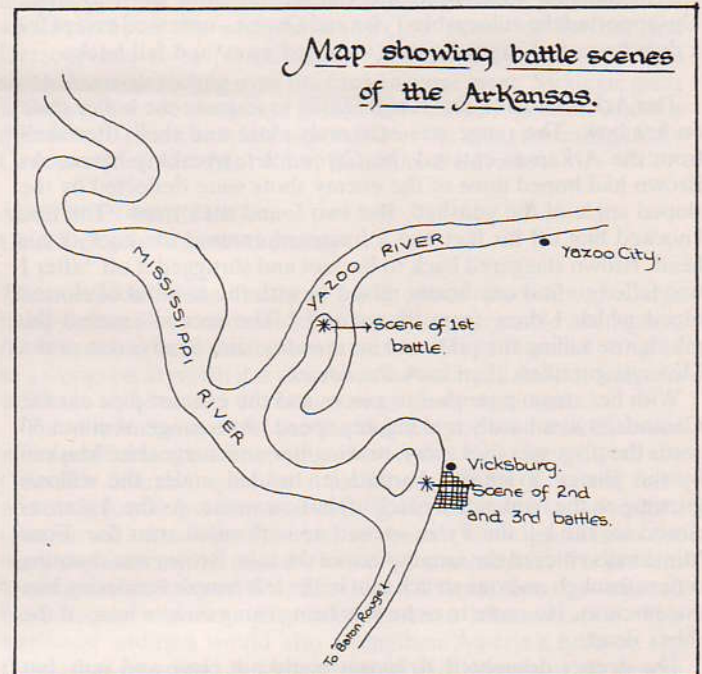
from a Louisiana infantry regiment and 60 Missouri guerillas from General Jeff Thompson's "Swamp Rat" command. They were to act as gunners, although they had no previous experience. On July 12th Brown began his descent of the Yazoo.

Brown's Plan

It is difficult at times to know whether to call the Confederates audacious or just foolhardy. Brown, with one ship, was expected to take on a fleet estimated to number thirty seven and drive them from Vicksburg. At no point in his account does he say he considered this a tall order.

Brown knew how he was going to fight. He would take them by surprise since they would not be expecting a warship coming out of the Yazoo. In a long range fight the *Arkansas* was doomed, so he would sail into the centre of them and try to ram as many as possible. He also believed his guns stood a good chance of hitting something that way, since he would be completely surrounded by enemies.

By the same token, if they missed they stood a good chance of hitting one of their own ships. He also reckoned by mixing it from the start it would be difficult for their rams to get a clear run at him or to get up the head of steam that would make ramming effective. The *Arkansas* also presented no real target apart from the gunshed, whereas the Union ships stood high in the water and carried a good deal of vulnerable superstructure. The crude armour of the *Arkansas* was in fact stronger than that of the more sophisticated Union ships.

The journey down the Yazoo was not without mishap. The untested engines began to cut out and failed to work in unison sending the *Arkansas* round in circles. No sooner had this been corrected than it was found the boiler was leaking steam into the forward magazine making the the the powder unusable. A precious day was lost drying it out on the riverbank. As the *Arkansas* approached the junction of the Yazoo and the Mississipi the three ships sent to investigate hove in view led by the *Carondelet*. The advantage of surprise seemed lost and with it Brown's chances of driving off the Union fleet. As it was the *Arkansas* was up against odds of three to one in this battle. Her crew were not to know it was only the first of three the *Arkansas* was going to fight that day.

The First Battle

Brown attacked the *Carondelet* as the most formidable of his opponents and bore down with the intention of ramming. To this end he forbade the bow guns from firing in case it lessen speed. The *Carondelet* fired her forward battery and then made a fatal error. Her Captain did not believe she could withstand a head on ram and swung her round. The stern was unarmoured and she offered a near stationary target at 300 yards range. The *Arkansas* opened fire and almost the first shot raked the *Carondelet* from stern to stem. Unsupported the vulnerable *Tyler* and *Queen* – unarmed except for a detachment of sharpshooters – turned away and fell back.

The *Arkansas* gave chase, zigzagging to disguise the boiler plate on her bow. The range was extremely close and shell after shell from the *Arkansas* entered the *Carondelet*, wreaking havoc. As Brown had hoped most of the enemy shots were deflected by the sloped angle of the gunshed. But two found their mark. The first knocked him off his feet and a fragment entered the back of his head. Brown staggered back to his feet and shrugged it off "after I had failed to find any brains mixed in with the handful of clotted blood which I drew from the wound." The second entered the pilothouse killing the pilot and his standby. Jim Brady, one of the Missouri guerillas, then took the wheel.

With her steam pipe shot to pieces and the exhaust pipe cut the *Carondelet* was hardly making any speed. At a range of about 50 yards the tiller was shot away, making her unmanageable. Masked by the plucky *Tyler* the *Carondelet* headed under the willows growing on the bank into a patch of shallow water. As the *Arkansas* closed for the kill the *Tyler* opened up with small arms fire. Four Minié balls entered the mouthpiece of the tube Brown was shouting orders through and one struck him in the left temple rendering him unconscious. He came to as he was being slung on to a heap of the ship's dead.

The deeper draughted *Arkansas* could not close and ram, but fired her port broadside at less than twenty yards. The *Carondelet* listed over and water deluged the gunports and she grounded under the weight. The *Tyler* and the *Queen*, which had stood off throughout the action, made use of their greater speed and made off into the Mississipi. The *Arkansas* followed and as she turned into the great river the horizon was filled with the masts and funnels of the main Union fleet. Brown instantly decided to attack. Although he had lost the advantage of surprise the action had been so brief – less than an hour – that many of the Union ships had not got up steam. It was as good a chance as the *Arkansas* was going to get.

The Second Battle

Davis and Farragut had certainly heard the gunfire on the Yazoo – down at Vicksburg it had brought out the crowds to see what was afoot. But they seem to have felt no urgency. The only vessel under way was the captured Confederate ram *General Bragg* which proceeded to steam out of the action. Brown made straight for the centre of the Union fleet in accordance with his plan. Packed close together they were a perfect target for ramming.

But the *Arkansas* was in no fit state to ram anybody. A shot had severed the connection between the furnace and the smokestack, pouring raw flame into the cramped ship. The temperature inside the gunshed was 130 degrees and men could only work in short relays. Steam pressure had dropped to less than twenty pounds barely enough to turn the engine. Without speed she was more likely to damage herself than the enemy in any ram. Brown adjusted his tactics accordingly.

The forward battery opened up on Farragut's flagship, the sloop *Hartford*, tearing a hole in her side. Brown ordered Brady to "Shave...(the Union ships)...as close as you can" to prevent any Yankee rams from attacking him for fear of hitting their own ships. This worked but meant the *Arkansas* had to run the gauntlet of Union fire at point blank range. Trading broadside for broadside the *Arkansas* literally shuddered under the crew's feet as shot after shot found its target. Clouds of smoke soon obscured the river. Union fire slackened as with only the flash of guns to aim at they feared hitting their sisters. The *Arkansas* fired at each and every flash in the sure knowledge it was an enemy.

At this point several Union ships opened fire on one of their own mortar schooners, *Sydney Jones*, mistaking it for the *Arkansas* and causing a fire. Although the smoke may have caused confusion the *Syndey Jones* lay south of Vicksburg and well out of the action. It seems likely some of the Union captains simply panicked and lost their heads. Emerging briefly from the smoke the *Arkansas* let fly at the *Iroquois* and *Benton* causing heavy damage to the former before disappearing again. The *Benton* carried the flag of Admiral Davis and lumbering round at a snail's pace (she could only manage 4 knots at full speed) she turned to follow. At this point one of the *Arkansas's* unreliable engines stopped and she travelled hopelessly round in a circle only to find the *Benton*, as a result, laid squarely in front of her. Believing there to be no other option Brown reluctantly ordered Brady to ram her amidships knowing it would wreck his own ship. Brady ignored his captain and by a whisker took her past the *Benton's* stern and the starboard broadside fired at a range of 3 feet raking her from rudder to prow. The smoke cleared again to reveal a stricken *Benton* and no sign of the *Arkansas*. Thinking she had been rammed and the *Arkansas* was looking for new targets the Union ships began to shift position, blocking each other's fire. This gave the *Arkansas* time to get her second engine working again.

By now the *Arkansas* was in a bad way. No less than 68 shots had passed through the smokestack and many of the iron rails had been shot away or were hanging loose down the sides. Fuel was running low and more than half the crew were dead or wounded. Even Brown was beginning to think the *Arkansas* had had enough. Within sight of Vicksburg now he decided to run for port and the protection of its shore batteries. The bluffs above the shoreline were lined with figures alternately cheering and despairing as the *Arkansas* wove in and out the smoke. A Union ram came into view and then thought better of it and sheered off. But others were closing in now and the ram *Lancaster* turned to make a run at the *Arkansas*, blocking her path to safety. As the two ships came directly at each other a shot penetrated the *Lancaster's* steam drum scalding the crew and forcing them to abandon ship. The *Arkansas* passed safely through the remaining ships and glided into Vicksburg, tying up opposite City Hall to a rapturous welcome. Brown immediately began carrying out urgent repairs and drumming up replacements intent on another round of combat the following day. He was to fight again rather sooner than he bargained for.

The Third Battle

Aboard the damaged *Hartford* Farragut was accusing his captains of "damnable neglect or worse." The *Lancaster* was beyond repair, the *Carondelet* grounded, and the *Sydney Joness* had blown up as a result of the fire on board. The Mississipi was littered with broken spars and wreckage. Only the week before Farragut had cabled Washington to assure them his blockade of Vicksburg was complete and absolute. He needed to redeem himself and his fleet as soon possible and the only way to do it was to destroy the *Arkansas*.

Davis felt any precipitate action was bound to fail and would only agree to engage the shore batteries with his ironclads while Farragut tried to destroy the *Arkansas* at her moorings. At seven in the evening the sloops *Hartford*, *Richmond*, *Oneida*, *Iroquois*, four gunboats and the ram *Sumter* passed Vicksburg in a line and opened a thunderous fire. The *Arkansas*, painted a dull brown, blended into the shore as the sun set making her hard to hit. Farragut's ships were silhouetted by the red glow of the dying sun and an easy target. As the Union ships passed Brown could hear the groans of their wounded as his broadsides struck home. Unfit as she was he ordered the *Arkansas* out into the river, but as the order was given an 11" shell from the *Oneida* passed through her side, wrecking the engine room and lodging in the bulwark. Having given her position away by firing the motionless *Arkansas* was a sitting duck, but the *Sumter* made no attempt to ram, passing below Vicksburg with the rest of the line. A long and bloody day was finally over.

The Destruction of the Arkansas

For the next week Union mortar scows fired a cascade of shells at the *Arkansas* which killed a great number of fish but did very little else. Brown continually kept his smokestack burning, forcing the

Union fleet to do likewise, giving them very little rest in the searing heat. He was prevented from resuming the offensive by the repeated failure of his engines to work. Nor could a full complement be found for the *Arkansas*. His surviving crew were leaving day by day as their enlistment covered only the journey down to Vicksburg. The initial welcome for the *Arkansas* in Vicksburg was wearing thin and people were not keen to volunteer for what was obviously a suicide mission. Nursing his disabled engine Brown could muster only twenty eight crew.

Farragut made one last attempt to destroy the *Arkansas*. The ram *Queen of the West*, anxious to redeem her previous performance, and the newly arrived ironclad *Essex* were sent in. They were to ram and sink the strickened *Arkansas*, but even when cornered Brown was more than a match for them. Able to man only his two bow guns he kept up a furious fire at the approaching rams. At the last minute he loosened the moorings allowing her to drift bow on as the *Essex* struck. The result was negligible and muzzle to muzzle the two ships fired. With a single shot composed of children's glass marbles the *Essex* disabled half the *Arkansas*'s remaining crew, but then pulled away to let the *Queen*, finish her off. Yet again loosening the moorings the *Arkansas* swung round to receive the *Queen* which struck only a glancing blow. Pulling off to strike another blow she grounded on a sandbank and had to be towed off under heavy fire. On July 24th the disgusted Farragut took his squadron south and on the 28th Davis led his gunboats 300 miles upriver.

Brown obtained a week's leave and visited friends at Grenada, Mississipi. On his arrival his wounds and the strain of the last weeks caused him to lapse into a fever. Confederate Command decided to press their advantage and attack Baton Rouge. A scratch crew was got aboard and the *Arkansas* started downriver. Brown, rousing himself from his sickbed, began a desperate journey by rail and horse to rejoin her. He was too late. The ever unreliable engines broke down and she ran aground in sight of Farragut's fleet. As she was unable to move or fire her guns due to listing the *Essex* closed in on her. Brown's deputy, tears streaming down his face, ordered the crew ashore and then set her afire. One by one her guns exploded as the flames touched them, forcing back the *Essex* even to the last.

In strategic terms the *Arkansas* failed in her mission because that mission was impossible. One ship, however well handled, could not defeat a whole fleet. Even when she had fought her way into Vicksburg she was unable to achieve much more. When Farragut abandoned the blockade it was because of falling water levels in the Mississipi, not because of the *Arkansas*. Ironically the lifting of the blockade did nothing to help Vicksburg. The Confederates west of the Mississipi were too busy fighting their own battles and made no serious attempt to get supplies across the river. But at a tactical level the *Arkansas* had a record of achievement second to none. Few people have been asked to build a warship from a pile of junk and then outfight a fleet. Brown and his crew, with great skill and courage, had outsmarted thirty ships and defied repeated attempts to destroy them in the most adverse circumstances. The *Arkansas* had never been defeated nor had a single enemy ever set foot on her decks.

Wargaming

The story of the *Arkansas* provides the naval wargamer with a series of intriguing scenarios capable of giving pleasure as "one off" battles or as a campaign. There are a number of sets of rules covering the period from the simple to the unplayable. The problem with most of them is that the *Arkansas* just will not survive against odds of thirty seven to one. This might be eased by creating a special class for the *Arkansas*. My own ironclad rules cover Lissa as well and in my refight I classed her as a 1866 "Superclad" as an exception. Alternatively you could introduce a morale throw each turn for Union ships but not the *Arkansas*. Given the performance of her crew I do not think this is being unrealistic.

No period lends itself better to scratchbuilding than A.C.W. naval. The real ships, after all, were scratchbuilt. A respectable model can be made from balsa wood, the outer shell of a ballpoint pen cut in half for paddles and using the inktube as a funnel. This is probably the only way to recreate the Union fleet.

WAR IN THE VENDEE

by Martyn C. Clarke

When the deeply religious people of the Vendée finally rose in 1793 against the new revolutionary order then existing in France, their string of unexpected victories astounded the nation, a nation moreover deeply embroiled in a bitter life or death struggle against a coalition of European powers bent upon preventing the spread of ideological and revolutionary fervour throughout their own realms.

Spontaneous from the very first, composition of the many "Catholic and Royalist" insurgent armies taking the field that fateful Spring reflected the peasant well-spring from which they derived their continued, if uncertain, existance. Their structure and make–up mirrored their social organisation, a society of the country, not of the town. Gathered into local parish companies under elected "parish commandants" or "captains" and a few locally elected Lieutenants, these unstable and ever changing community companies formed a rickety federation of neighbouring units often under the shaky command of one or another Royalist general. Within the area assigned a company by virtue of locality, all able-bodied men were expected to serve, but those with sufficient funds could buy exemptions, leaving the bulk of the peasantry and artisan class to fill the ranks of these essentially home–guard type formations, officered in part by their immediate social peers, local innkeepers, blacksmiths and other worthies of the commune.

At the height of the war four quasi–independent armies entered the lists in an uneasy alliance directed against the "Blues", these being the armies of Poitou, of the Centre and of the Marsh, each subdivided into divisions owing allegiance to its own commune or parish and its own elected chief. A somewhat irregular network of couriers nominated by each commune linked these small–time cheiftains to the high command, who in turn made equally good use of this adaptable system when calling forth the levies in their continued struggle to wage a prolonged war against an increasingly hostile republic. At no point during the war of the Vendée, save perhaps only towards the end, could there be said to have been anything approaching a permanent or standing army, this was simply beyond their means. In essence enrolled as and when circumstances demanded, joining together with other nearby parish companies, dependant in the main upon captured war material, each parish or commune attempted to provide its requested quota of armed men, the task of necessity falling to their appointed commandants.

Those of the nobility who, for whatever reason, chose to join the rising, particularly those with former military service, invariably officered the armies rather than the company sized units that sprang up all over the Vendée. It was they who apportioned amongst the communities of their command the number of troops to be raised. Inevitably they were undoubtly sons of the region, a few were drawn from the great families of the day, all were brave and committed men, many were to die on the field of battle or of wounds sustained thereupon. Given time a few commoners joined in the deliberations and councils, one even being nominated and recognised as the first Vendéan generalissimo. In the long run though it was the former professional soldiers who reached the top of the royalist ladder. On occasion joint army actions were mounted, but more often than not suspicion, uncertainty and down–right jealousy negated and put paid to any worthwhile attempts at co–operation.

When agreement was finally reached, armies had then to be raised anew, more couriers sent out, and the tocsin sounded afresh. Those hearing its plaintive cry would down tools and attend, ready armed with makeshift weapons, the gathering taking place in their native bourg prior to marching off to confront the foe. The parish commandant gave his orders, the number of men required, the duration of the sortie and the day and location of the rendezvous. Having formed up in a loose procession to listen to and receive the blessings of their priest these unlikely warriors time and time again set off to inflict stinging defeats upon the Republic. By adopting former taxation methods, methods that assigned to a certain area its given quota of men and then further subdivided that quota amongst the various communes of the region, a simple and effective source of hardy manpower was tapped for future operations. It was due to the collective integrity of the numerous communities that the system worked.

Functioning as an army, organisation followed equally simple dictates, the force being divided into several columns. each attacking points previously determined by what passed for a high command. Orders came down very much in this fashion, "so-and-so goes such a way, who follows him?" Those who knew and trusted the general concerned joined him speedily and when the required number of men was reached, no more would be accepted. Likewise upon gaining the place of attack the Vendéans were instructed thus "go towards that house – towards that great tree – then to the attack."

Accustomed and conditioned by the never ending toil of the countryside, the mass of the army could not be reconciled to the apparent inaction and idleness of camp life. It was found impossible, even for financial considerations, to make them stand guard; the posting of sentries and look–outs caused endless problems as the men refused to accept any form of military discipline. Hating inactivity they would invariably return home once their appointed and agreed term of service expired, regardless of present circumstances and very much to the consternation of the Royalist command who very quickly found they had little or nothing left to command. In turn advance planning was extremely hazardous as it remained difficult to predict how many

effectives would be available after a battle. Officers on many occasions were obliged to stand duty at guard posts, their contact with the other ranks lessening as their calibre changed with the lengthening of the war.

In the whole of the army the only soldiers to receive pay, and then only in royalist paper currency, were the gunners, blacksmiths and wheel wrights, kept on a permanent establishment. It was the blacksmiths who melted down and calibrated the armies' bullets and cannon–balls, whilst the soldier– peasants manufactured their own cartridges, having moulds of every size for so doing.

Their cavalry, known as "Cherry Merchants", were indifferent horsemen, badly equipped, riding horses of all colours and sizes, some with pack saddles, others with rope stirrups. In one contending army, Charette's, the horse were composed of local millers' hands backed up by a "corps d'elite" armed with muskets, followed by a body of men bearing scythe blades, bill hooks and pitchforks and others with little more than cudgels and staves.

Republican deserters, in the early months of the war, upon reaching Royalist territory were made up into officers; but as their numbers increased they were eventually formed into three companies, one each of Frenchmen, Germans and Swiss, each at a strength of about 120 men. The company of Swiss was almost entirely composed of fugitive former guardsmen from the King Louis' Swiss Guard, a detachment quartered in Normandy at the time of the massacre of their compatriots at the Tuileries Palace. As with their somewhat strange allies these small remnants followed the irregular mode of warfare of the Vendée,

declining to fight in line, in which formation they would have been overwhelmed.

A small, but formidable, collection of amazons took the field alongside their menfolk, both in the horse and amongst the foot. Wives, widows and sweethearts, all played their part on the field of battle, a small number indeed sustaining wounds in the service of their church and King. An ex–Ursuline novice, having slain an enemy hussar, not only seized his horse and arms but continued for some time to blaze a trail of glory in the rank of the Vendéan horse.

Before engaging in battle it was often said of the peasant mass of the army that they seldom failed to offer up their prayers and that almost all having done so made the sign of the cross seemingly every time they fired their muskets or fowling pieces in anger. At the onset of a general engagement those who followed the army, women and children, and all likewise engaged in the cause, sought shelter in nearby churches or if unable to do so sat down in the open to pray for the success of their arms.

And varied and motly indeed were their arms, gathered as they were from the Chateaux of the Mauges, the homes and centres of their patriotic Republican neighbours and, as in all wars, the stiffening corpses of their enemy. Improvised pikes, agriculture implements of all types, rusty with age, ancient firearms, old field pieces drawn from an earlier age, clubs and staves all combined to present a wild and unorthodox front to their adversaries in the ranks of the Republican armies marshalling to crush the Vendée.

In the main theirs was a war without order, surrounded in battle by

held back until the battle was gained before making their presence felt! It was evidently held to be a prudent policy to allow the Republican foe a means of retreat, lest he should opt to fight to the bitter end; whether in the heat of battle this was always so is now impossible to say. What is more certain is the treatment accorded prisoners of war taken in battle. On the whole, given the nature of the struggle, they fared rather well once a promise not to fight further had been gleaned, and once their heads had been shaved as a mark of submission, a less pleasant formality but still far better than Republican policies towards captured Royalist personnel.

Costume, as may be imagined took on the appearance of a riot, all manner of dress being present in the army, Universal to all was a simple patch of brown cloth pinned or sewn to the jacket upon which was worked the sacred heart of Jesus, surmounted by a red cross, more often than not on a white ground. Initially supplied with an abundance of coarse woollens, linens, cotton, and ticking peasant costume varied from Department to Department. Captured boots quickly replaced wooden sabots when available, others seized whatever possible from looted shops and on occasion from the odd playhouse, one such being

their friends and family, sons and brothers. This dedicated and motivated minority astounded the world by launching ferocious assaults on the far from unified Republican formations sent to confront them. Convinced that all hope of success rested upon the initial shock and violence of their opening moves, those whose hearts were in the business fought as men possessed, madmen, in the belief that in wooded or gorse strewn country it would prove near impossible to rally a broken force. And so it often was. On occasion they were seen to run up to enemy cannon, heedless of death, and snatch them quickly from the unexpected grasp of their crews; elsewhere, manoeuvring in parallel columns, they would swiftly overrun and turn their enemies' position, by sheer weight of numbers alone. In a mass they were seldom tactically thwarted in their intent by the conventionally deployed and strung-out Republican opposition, only when they themselves chose to fight in this manner were they defeated in detail. The capacity of the army to rally and concentrate truly astounded the enemy who never really came to terms with this mode of waging war.

Classed as rebels they would not countenance marching in order, instead they were only happy when fighting from cover, their usual tactic, and one put to good account on many occasions. Hiding and sniping behind hedges, copses, woods, forests and the innumerable banks of the region, the Vendéan peasant–soldier excelled in the laying of ambushes for the unwary "Blue" and in the infiltration of his unwieldy columns. Such then were the fighting troops of the *Grande Armee Catholique et Royale*. More typical perhaps were those who

described as wearing a turban and Turkish dress, whilst another bravely cavorted in a lawyer's gown and a woman's hat over a flannel night cap. Admittedly all this occured at the campaign's end, when the troops were to be likened to scarecrows. One fortunate met his death wearing nothing more substantial than two petticoats, one fastened around his neck, the other around his waist. A Republican deserter came over dressed in a blue great coat, and a black and white scarf.

Red kerchiefs and rosaries proved very popular items of dress amongst the rank and file, as indeed were white, black and green cockades. Their cavalry mounts are given out as farm horses with sheepskins instead of saddles, harnessed by ropes, and bedecked with tri-coloured cockades and enemy epaulettes affixed to their tails as an expression of contempt! Their riders hefted guns and sabres suspended by pack threads and wore a chaplet hanging at their buttons, officers seemingly being marginally better equipped.

A white banner embroidered with fleur-de-lys and the words "God and the King" was carried before the troops by a young woman dressed all in white. An equally spirited Amazon, young, tall and beautiful, with pistols and a sabre at her girdle, accompanied by two others armed with pikes, arrested an enemy spy on one occasion. One hardy, yet well-to-do lady, adapting to her changed circumstances, presented an almost bizzare appearance: on her head she wore a purple flannel hood, an old blanket wrapped about herself and a large piece of blue cloth tied around her neck with twine; green slippers fastened to her feet with cord and several pairs of yellow worsted stockings completed her apparel.

Of those Swiss Guards who made it to Royalist territory a number continued to wear their old regimentals, one enterprising fellow even managed to retain his old clarinet. A number of Grenadiers deserting from the Regiment de Provence (4th Line) turned their white sky-blue faced uniforms inside-out on joining Charette's command, revealing torn and stained linings. White paper cockades quickly adorned their hats. Several turn-coats from the ci-devant German Legion, a short lived unit, remained dressed in the green uniforms that so typified the mounted troops of that formation.

At the height of the rising it was decided that each division was to have a unit of twelve hundred selected men, paid and trained as troops of the line, their officers being uniformed in a green vest with white or black facing depending upon the division they were attached to; however this plan never got of the ground and costume remained as before. As with all who struck out for Church and King, officers bore the Sacre-coeur insignia common to the army. White kerchiefs, brassards and waist sashes from the very start became the mark of the gentleman-officer. Many, like their followers, sported white cockades; a smaller number displayed crosses of Saint Louis, mementos of an earlier loyal service. Their principals set the tone, by embellishing the essential hunting dress cut of their clothes. Chief in this respect was Charette of the Vendée Maritime. Flaunting a black high crowned hat à la Henri IV with a fairly narrow turned up brim at the front, edged by two gold bands and secured by a clasp above which there rose at first a single white plume, later three coloured plumes of black (for mourning), white (Bourbon) and green (hope). A white kerchief as in the fashion of many Vendéan leaders, but with red dots, provided a somewhat flamboyant touch. Buckskin breeches, brown-topped riding boots, a large white sash and a coat of hunting green set Charette apart from his erst-while confederates. A blue or snuff coloured coat sometimes doubled for the hunting green.

Two others, Nicholas Stofflets, a one-time gamekeeper, and Monsieur Henri de la Rochejaquelein emulated this high Vendean taste for kerchiefs. Stofflet's all white head-scarf "rendering him conspicuous from afar", whilst Rochejaquelein it appears went one better by wearing several red hand-kerchiefs on the person, several about his waist, securing his pistols, one around his neck, the other as might be expected sitting atop his head.

Such then was this "army of brigands" who, for a few short months in 1793, virtually unaided and alone in a hostile world, confronted and took on one of the hitherto mightiest Republican orders to emerge out of the social chaos and turmoil that so epitomised Europe at this time, a time of acute uncertainty and rapid change. That the rising ultimately failed should in no way detract from the essential nobility of purpose that characterised those committed souls who willingly pledged themselves to uphold the cause of Church and King.

The Camerons are driven out of the Urrard House, 'Overture & Beginners' for the Battle of Killiecrankie. The noble Highlanders here represented by (mainly) Wargames Foundry 25mm, the "Pockpuds" by Dixon Miniatures. All figures from the collections of Graham Cummings, Gordon McLean, and Lee Maxwell, to be used in their Killiecrankie demo-game, to be seen at the Sheffield Triples in March, and at Partisan '89 at Newark in June.

THE BATTLE OF KILLIECRANKIE, 1689

by Graham Cummings

In November 1688 after being invited by members of Parliament Prince Willaim of Orange, a grandson of Charles Ist landed at Torbay. This was in response to James II's blatant favouritism of Roman Catholics and his attempt to force this religion upon the country.

In December of that year William and his wife, Mary, were crowned at Westminster. Upon the landing of William many of James' supporters and the majority of his English Army deserted him and joined William. This forced James to flee England and seek exile in France.

In April 1689 a deputation from Scotland offered William and Mary the Scottish Crown. Both accepted and they took the coronation oath, William thus becoming the last King of Scotland.

Although Scotland declared for William only the Lowlands showed any strength of support. The Highlands were uncertain, the clan spirit at this time being very much alive. A month after William's coronation John Graham, Viscount Dundee left Edinburgh with 50 followers declaring his support for the exiled King James. Moving North into Gordon country towards Inverness, Dundee rallied over 1000 followers to his cause. This greatly alarmed the Government authorities in Edinburgh and they despatched General Mackay with some 400 men to march North and engage Dundee.

Mackay left Edinburgh, marching through Elgin and onto Inverness, only there to learn that Dundee had moved south, almost to Perth. Mackay realising that a much larger force was required to pin down Dundee retired back to Edinburgh.

After reorganisation Mackay had over 4,500 men with which to bring Dundee to heel. These comprised of six regiments of infantry, three from the Scottish brigade of William's Dutch army, one English Regiment that had seen service at the Battle of Sedgemoor and two locally raised regiments. The horse comprised of two troops, about 100 men, in addition to which there were three 3pr. field pieces. All in all none of the units had any great deal of experience.

Mackay accompanied by his army, left Perth on 26th July 1689. The first night's halt was at Dunkeld, where, about midnight, Mackay was informed that Dundee was in attendance at Blair Atholl castle. Early next morning Mackay led his army into the pass of Killiecrankie. The pass itself is almost three miles long and in parts wide enough only for 3 or 4 men abreast.

Dundee upon hearing that Mackay had entered the pass in strength decided to take action. He had with him at this time some 2,500 men. This force included 300 Irish Regulars led by Colonel Cannon and about 40 poorly mounted cavalry, the remainder were Highlanders led by their elected Chieftains.

Knowing that with Mackay's superiority in cavalry it would be too much of a risk to face them on the open ground Dundee led his troops from Blair Atholl and after five miles turned off at Glen Tilt marching until he gained the high ground near the Urrard House, a stone built farm. Sending a garrison of 60 Camerons to the house Dundee deployed his men along the high slopes and waited for Mackay.

Mackay's scouts informed him of the Highlanders' movements.

carriages collapsed Mackay resorted to sending out sharpshooters, again to no effect. Dundee's men stood their ground.

About 7pm, with less than an hour of daylight remaining, Dundee unleashed his troops. The Highlanders ran down the slope, its steepness increasing their speed dramatically. Many of the Highlanders discharged their muskets and pistols at the waiting enemy before throwing them to one side.

Despite many of Mackay's troops being inexperienced they held their ground and let loose a volley from their muskets. About 300 Highlanders were brought down, but they couldn't be stopped. Mackay's troops did not have enough time to fire a second volley and it was also at this time that many found they also had insufficient time to fit their plug bayonets. As a result the whole of Mackay's left wing broke without waiting for the Highlanders to close. Upon seeing this all of Mackay's regiment and part of Leven's Regiment on the right wing also fled.

Mackay had to try and rally his men, and in an attempt to do so he ordered his troops of Horse to advance through the centre and attack the Highlanders in the flank. But as Mackay spurred through the enemy lines he found that only one man had followed him, the remainder of his Horse had turned about and joined the rout. It was about the same time that Dundee had ordered his Horse to charge, Possibly in order to counter the threat of Mackay's cavalry. Whatever happened, however, Dundee also found himself separated from his men and behind enemy lines. Looking for support he was shot and fell from his horse.

By this time the Highlanders had closed on the enemy lines, the only troops actually standing to receive the charge being Hastings' Regiment and part of Leven's Foot. These Regiments held and acted as a rearguard. Mackay had managed to regain his lines and joined these troops. In the failing light he led the men down the hill to the river, which they forded.

Dundee's army contented itself with pursuing the routing troops and looting the baggage train. No organised pursuit of Mackay and his rearguard took place. Mackay seeing that he was in no immediate danger led his troops over the hills to Tummel and from there to Aberfeldy. A night march followed and after thirty six hours Mackay led about 400 men, the remains of his army, into the

Realising the danger of being caught on a narrow strip of ground with a river to his rear and steep slopes commanding the flank he hurried his men out of the pass and, facing them to the right, advanced onto a low eminence some 600 yards long and 70 feet high, driving the Camerons out of the Urrand House as he did so.

In fear of being cut off from the pass and in order to protect his baggage Mackay extended his line, deploying the men in three ranks. In the centre he placed his artillery and some distance behind the guns he placed his cavalry to act as a reserve. Upon seeing this Dundee also extended his line by increasing the intervals between the units, but not reducing their depth.

It was about 4pm and there was to be lull of over three hours before the battle commenced in earnest. Could it be that Dundee was using psychology, attempting to unnerve the enemy? It would seem so, as Mackay attempted to provoke the Highlanders into attacking him, initially by bombarding their position with his artillery. This proved ineffectual and after at least one of the gun

safety of Stirling. Of the remainder of Mackay's army the greater part were killed or captured.

However, despite the magnitude of their victory the Highlanders were not without loss. Some 500 men had fallen, including a number of their prominent leaders. But the greatest loss was that of Dundee; he was found gravely wounded by his men and carried from the field to the inn at Old Blair where he died the following morning.

It was indeed a hollow victory for the cause of James II, there was no leader capable of taking Dundee's place and after a Highland defeat at Dunkeld on the 21st August 1688 organised opposition to William of Orange collapsed.

The battlefield itself is worth visiting. The rise on which Mackay's troops deployed is easily found. In the centre of the field is a stone memorial which I believe marks the common grave in which the officers of both sides were buried. The ground itself has many undulations and is covered by shrubs, bushes and some small boggy areas, all of which, if there in 1689, would have made any effective use of cavalry almost impossible. The one thing that does strike you is the slope down which the Highlanders charged. The impetus gained by running down this must have been formidable and I for one wouldn't have liked to be on the receiving end.

To refight this battle is bound to test any set of commercial rules to the full. An army outnumbered 2:1 in men and by a greater number in firearms has to be able to stand under fire and be able to launch an effective charge. One possible solution is to play it through as a mini-campaign, starting at the point when Mackay enters the pass and Dundee is at Blair Athol. Mackay's objective is to be in control of Blair Atholl and the castle by night fall, Dundee obviously trying to prevent this.

For those more concerned with the actual battle, points to consider and possibly incorporate into the rules are that the longer the Highlanders can be withheld from charging and the closer darkness gets then the morale of Mackay's troops will fall. Conversely the Highlanders must be able to withstand the bombardment of the 3prs. and the sharpshooters. Charge too early and the enemy may stand and make a fight of it. Other points you could consider are the collapsing gun carriages (rotten timber) and the charisma (if any) of the two commanders. Dundee was an able commander who held the army together.

As to figure scale, 1:10 makes for an impressive game, but 1:20 is more practicable for those without the space or resources.

The following uniform information and strengths may be of some assistance to those people who wish to have a go. The regiments of foot at this time were generally organised into thirteen companies, one of which would be of grenadiers. Pikes were still carried within the unit and I've organised my units along the lines of one pike to four muskets. With regards the Highlanders almost anything goes, the front rank(s) of the unit could have firearms, sword and targe, the rear ranks anything. Again the ratio I've used is for the Highlanders to have about one third firearms, the rest to be equipped with a variety of hand weapons.

The troops actually involved in the engagement are as follows:

Jacobites
John Graham, Viscount Dundee. C in C

Macleans	200 men
Cannon's Irish	300 men (grey coats?)
Clanranald MacDonald	480 men
Glengarry MacDonald	300 men led by Black Alasdair.
Camerons	500 men led by Ewen Camer, who rode a grey horse and wore a leather cuirass.
Mixed Clans	200 men (men from the clans of Chisholm, Grant, Frasers and Graeme).
MacDonalds of Sleat	400 men led by Donald MacDonald
Wallace's Horse	40 men

Williamites
Major General Mackay C in C

Lauder's Fusiliers'	200 men	Yellow cuffs.
Balfour's Regiment	660 men	Yellow Cuffs.
Ramsay's Regiment	660 men	White Cuffs.
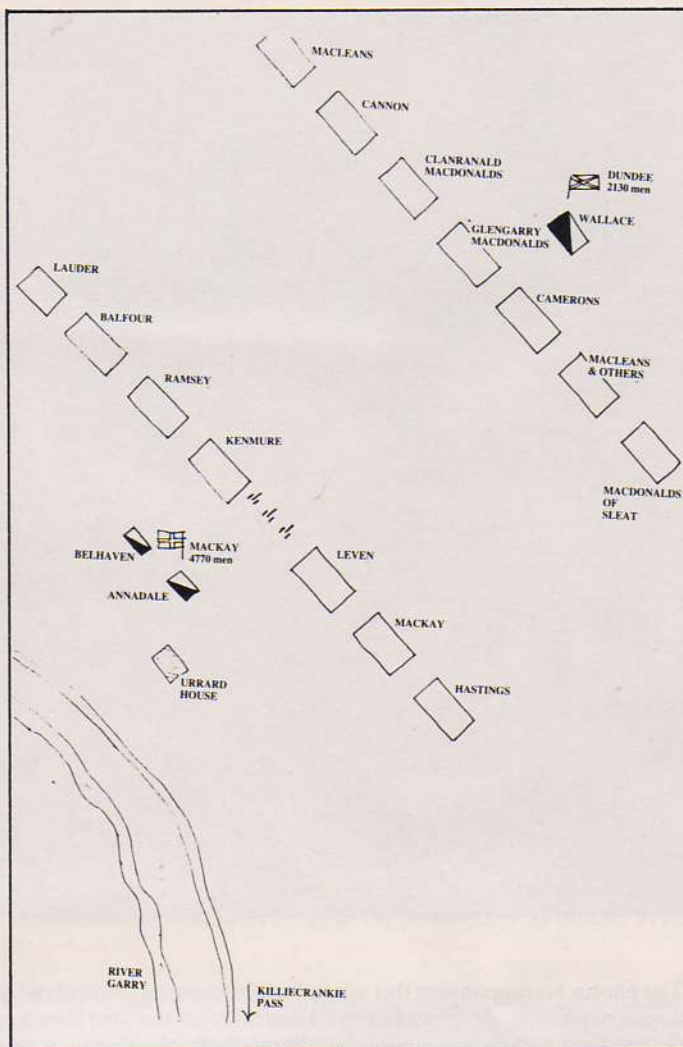
Kenmures' Regiment	770 men	White Cuffs. (wore bonnets?) 2
Leven's Regiment	870 men	Dark Yellow Cuffs. (wore grenadier caps) 2
Mackay's Regiment	550 men	Red Cuffs. 1
Hastings' Regiment	850 men	Yellow Cuffs.
Belhaven's Dragoons 2	60 men 2	
Annandale's Dragoons 2	50 men 2	

Notes 1. Troops from the Scottish Brigade of the Dutch Army.
2. Locally raised regiments.

For those requiring further information on the Battle or on the troops that took part I suggest the following books.

William III at War: Scotland & Ireland. 1689-1691 by Alan Sapherson
The Battle of Killiecrankie by Sir William Arbuckle K.B.E.,C.B.
The Killiecrankie Story National Trust for Scotland
From Pike to Shot 1685 to 1720 Charles Stewart GRANT
Guide to the Battlefields of Britain and Ireland Lt.Colonel Howard Green

For those interested a refight of this battle can be seen at this year's Triples, and at Newark in June.
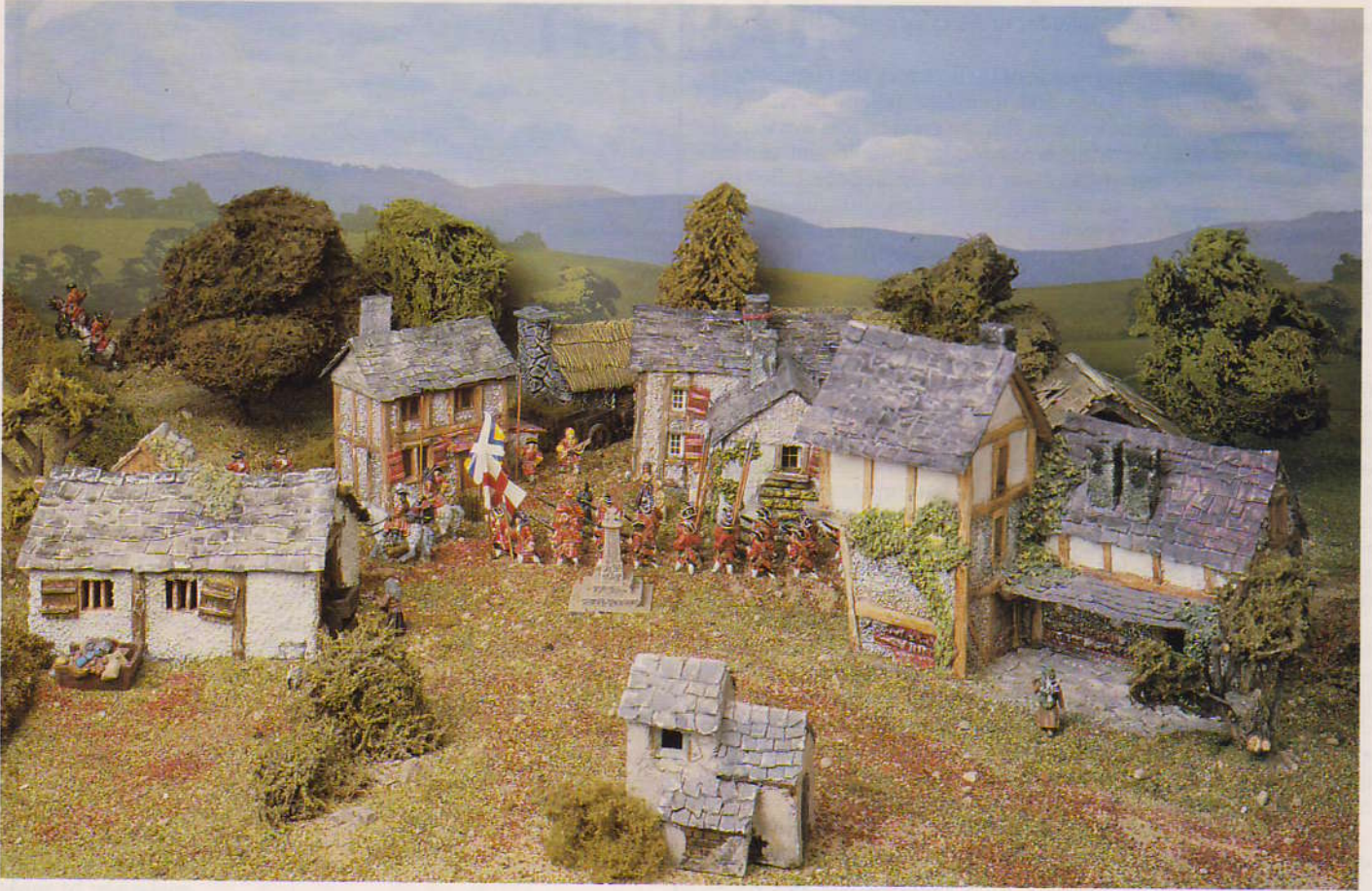
The photos accompanying this article, whilst showing some of the figures to be used in the demo-game on this year's convention circuit, do not depict specific scenes from the battle as, at the time they were taken, only about two-thirds of the required figures and only half the modular terrain was completed. Particularly, the buildings on this page – from Gordon McLean's collection – are obviously some way south of Killiecrankie, on the Williamite line of march (Watford, perhaps?) Also the "Urrard House" in the first photo is a Hales Models 'any-old-house' scratch-built job borrowed from the editor's collection. The real Urrard House has yet to have its foundations laid, but I hear Gordon builds 'em faster than Lawrie Barrett (– and if any of you have just said 'He probably uses the same materials, too!' this publication is instantly disassociating itself from your remark!!)

TOUCH HEAVEN PASS

Mo-tien-ling 1904

by Pete Gritton

Most people must now be familiar with the format chosen for this examination of a small action in the Russo-Japanese War of 1904/5. It is widely used for solo fantasy games and more recently by historical games too. I first came across the system of branching programming in a small book on Waterloo by Patrick Thornhill, which was published more than 20 years ago. It neatly presented the dilemmas facing the commanders, which is what I wanted to do with this small skirmish action.

You, the reader, take the role of the officer commanding the first battalion of the 10th East Siberian Rifles Regiment, a force of nearly a thousand men, divided into four companies. Most of your men have seen some military action, but from your experience of this war, you know the enemy to be better trained, better shots and probably your equal with the bayonet.

The plan of action devised by Count Keller, your Divisional commander, is as follows. There is a Japanese force moving up to try and take possession of Mo-tien-ling, a mountain pass that separates your army from theirs. Your mission is to get into the pass and keep the enemy out. Chinese peasants tell you that there are already Japanese in the pass, but without any educated observations you are unaware of what numbers are involved.

You have a rough map of the pass, which shows a village at the foot of the valley, and two temples near the top of the pass. Your force is required to move into the pass through the village, to meet with the first battalion of the 24th East Siberian Rifle Regiment which is going to move up the more northerly valley and cross into the pass to the East of Rocky Hill. It is expected that your reconnaissance will involve some fighting, but you are to make a defensible position somewhere in the pass so that reinforcements can come up later in the day. Until then you and the 24th will be on your own, so any enemy in the area are for you to deal with.

Your attack will be made at night to give the element of surprise. Just after 1 a.m. you begin to move east from your lines. Somewhere to the North, your left, the 24th should be doing the same. Slowly, so as not to cause the enemy alarm, you move off to the foot of the pass. It will be light by 5 a.m., so once into the pass, speed is essential.

To begin, go to paragraph 1. From there the next paragraph you read will depend on the decisions you make, so don't read straight through the lot!

1. It is 3.40 a.m. and still dark. Your battalion is edging forward with scouts in front, toward the walled village of Li-chia-pu-tzu. It seems almost certain that there are Japanese in the village, but probably not more than a company strength. A message comes from the scouts that there is a small Japanese patrol ahead of you, retiring slowly, who are not aware of your presence.

Do you wait here for the 24th Regiment to come to your aid (**go to 8**) or will you press on with your own advance and attack the village (**go to 14**)?

2. You are faced now by an alert and active enemy, being reinforced from higher up the pass. It is two miles back to your lines and you will have to fight all the way to keep the Japanese from overtaking you. Without your support the 24th has to retire too, so the reconnaissance has failed. **THE END.**

3. By the time the 24th arrives on the slopes of Rocky Hill some way to your left, it is nearly dawn. There has been some skirmishing between you and the Japanese sentries, from the village there has been occasional fire from about a hundred men, only half a company. The Japanese have had nearly three quarters of an hour to move reinforcements in from the pass which is only a mile away. Will you risk an attack on Li-chia-pu-tzu?

If yes, **go to 19**. If no, **go to 2**.

4. Japanese companies are marching down the pass, the counter-attack they are about to launch looks to be overwhelming. Your companies are dwindling under the accurate Japanese rifle fire and there is no possibility of the 24th rescuing you. There is no alternative but to retire and save what you can of the battalion. **Go to 2.**

5. The Japanese put up a good fight, but you have concentrated your attack and outnumber them. Stranded out on this flank the enemy have to give ground. Bursting into the screen of trees your men capture the Old Temple after a fierce fire fight. Your casualties are high, but so is morale. It is now light but there is no sign of the 24th. There are distant shots across the hills to your left. Will you consolidate your position here at the Old Temple (**go to 18**) or march what remains of your battalion to the sound of the guns (**and go to 13**)?

6. Here in the open is no place to form a firing line, especially when there are rallying enemy troops behind you and more coming down the pass from your right. Your men's shooting is no match for that of the Japanese, soon your depleted battalion is being shot apart. To stay here would be madness. You must fall back and save what you can of your command. **Go to 2.**

7. Your volley of rifle fire crashes into the darkness, a smattering of shots come in reply, not more than fifty. The sound of battle will have alerted all troops in the pass so, will you keep up the volleys of rifle fire and hope the 24th will get into the pass and cut the village off (**go to 3**) or will you charge in now and clear the village (**go to 20**)?

8. Your orders were to explore the pass and try to gain a foothold up there. Waiting here has wasted valuable time and it will be light very soon. More Japanese patrols have passed you and raised the alarm, you are discovered. **Go to 3.**

9. From the edge of the woods in front of the Old Temple Japanese soldiers keep up a hail of shots. There must be a hundred of them at least. There are a few shots from your left where some men are concealed in the trees. Will you brave the fire of the enemy and push on to the Old Temple (**go to 5**), fall back to the foot of the pass (**go to 4**) or turn to attack the apparently smaller force to your left (**go to 22**)?

10. You find that the defence at the New Temple is depleted by the threat of the 24th coming up the other valley. Taken from both sides the Japanese infantry fall back up the pass. By the time it is fully light the 24th have joined you and both battalions dig in around the temple, while your wounded are evacuated down the valley. You have gained a foothold in Mo-tien-ling. Your mission is a success. **THE END.**

11. There is constant skirmishing as you leave the pass, the Japanese press closely behind you. You meet with the 24th at dawn in sight of the New Temple. However, the enemy has been able to concentrate all his strength now that you have combined forces, so that you are outnumbered. More Japanese are marching down the pass to meet you. In daylight, with no surprise to help you, you must retire. Your force is intact but your orders have not been met. You will have some explaining to do at Brigade H.Q. **THE END.**

12. At last! The 24th appear and attack the Japanese on your left, forcing them to fall back. Spurred on by the sight of the enemy in retreat your men make a final wild bayonet charge and sweep the Japanese from the field. Between your battalion and the 24th you have captured both temples and now control the pass. However, your casualties in the fight were heavy and without reinforcement you may not hold off the counter-attack that must come. If your

superiors are as dedicated to this plan of attack as you are you can be pleased with your efforts. **THE END.**

13. Your small force emerges from the wood leaving the Old Temple behind you. Half a mile away to your front you can see the 24th fighting for the New Temple. Will you stay where you are and fire in support of the 24th (**go to 6**) or hasten forward to attack the enemy in the flank (**go to 21**)?

14. You come close to the walls of Li-chia-pu-tzu before you are challenged by a sentry. The Japanese obviously are unaware of your battalion. Will you order your men to stay low and silent and wait for the 24th to come in behind the village (**go to 3**) or attack the village. If you decide to attack will you fire in the direction of the sentry (**go to 7**) or sweep in with the bayonet in a massed charge (**go to 20**)?

15. The noise of your initial victory in the village will certainly have alerted the Japanese in the pass, so you can expect a prepared defence. The 24th must be somewhere in the valley over to your left still. Will you wait here for more news of the 24th (**go to 4**), or take what advantage you can from your success and press the attack into the pass? If you decide to go on, should you make for the Old Temple in the wood to the right (**go to 9**), or the New Temple to the left (**go to 22**), or onto the ridge between the two (**go to 16**)?

16. At the edge of the woods to your right there are Japanese. You estimate a section, sixty men, to your front, and the same on your right flank. You are under rifle fire and in the open. Will you retire down the pass (**go to 2**) or withdraw to your left, out of the valley and towards the 24th (**go to 29**) or drive on and attack the Japanese to your front (**go to 24**)?

17. The Japanese troops to your right are coming up fast, moving in short rushes and covering each other with rifle fire. You are taking a few casualties from this, but soon you will be surrounded if you stay here. Will you retire back down the valley (**go to 2**), try and fight your way out to the left to join the 24th over the hill and out of the pass (**go to 11**), or will you carry the fight to the New Temple (**go to 10**).

18. On this flank you are largely unable to determine what is happening to the 24th. If they succeed in their attack you will have taken both temples and be in control of the pass. However, you are unable to help them, and if they fail you will have at least had time to dig in around the Old Temple and consolidate a foothold on one side of the pass. How great your success will be depends on the 24th! **THE END.**

19. The defending Japanese infantry keep up a heavy fire in the half light as your troops move forward. There seem to be about two companies behind the low walls now and the casualties they inflict are keenly felt. Your leading companies reach the village and a savage hand-to-hand fight breaks out in Li-chia-pu-tzu. The Japanese are not easy to drive out and defend each building, wall and ditch. Will you fight on (**go to 23**) or withdraw? If you choose to give up the bloody struggle will you retire to your own lines (**go to 2**), or circle round the village and carry on up the valley (**go to 28**)?

20. Faced by overwhelming numbers of sharp and glittering bayonets the Japanese are driven out of Li-chia-pu-tzu with heavy casualties. The village is yours. Will you carry on with the reconnaissance towards the temples (**go to 15**), or move onto the ridge of Rocky Hill to join the 24th (**go to 26**), or hold on to what you have gained and stay to fortify the village (**go to 4**)?

21. Attacked from two sides the Japanese fall back in disarray. Their incessant rifle fire has caused you further losses, but you have met the 24th and captured the New Temple. With the casualties you have taken you will need reinforcements if you are to hold onto the position, but you have established a foothold in Mo-tien-ling. **THE END.**

22. Turning towards the New Temple you expose your right flank to fire from the Japanese at the Old Temple. The skirmishing enemy are supported by more companies behind them. Will you press on towards the New Temple and fight them (**go to 10**), or stay put and return fire (**go to 17**)?

23. In time your numerical superiority tells and the Japanese are driven from Li-chia-pu-tzu. It is now daylight, the 24th are somewhere in the next valley, you are pinned down behind the mudwalls by enemy fire from the hills around the village. To move out now would be disastrous, as the time won by the defenders of Li-chia-pu-tzu has allowed more Japanese to come into the Pass. Your indecision at the foot of Mo-tien-ling has left the enemy in possession of the pass, you have failed. **THE END.**

24. In traditional style you send in a long line of men, shoulder to shoulder, with bayonets fixed. The small Japanese force, not much more than a company strength, shoots your charge to a standstill. More enemy troops are coming between you and the 24th to your left, and it is getting light. Do you give up and retire back down the valley (**go to 2**) or bite the bullet and charge again (**go to 29**)?

25. In the open and fired on from both front and rear, not even the bravest troops could survive. Your force is rapidly shot to pieces, men begin to make their own way out of this storm of fire, soon there is nothing for you to command, you must follow your beaten battalion back to the Russian lines. Your mission has been a fiasco! **THE END.**

26. From the top of Rocky Hill you can see in the pale light of dawn, the 24th far up the valley, in serious trouble. Without your support they have had to face heavy concentrations of Japanese and have not been equal to it. They are falling back in disarray and there is nothing you can do to prevent it. **Go to 4.**

27. You will have to give the village a wide berth to avoid serious losses from rifle fire. The enemy are pressing from all sides and now your men see that they are going back the way they came their fighting spirit is cooled. **Go to 2.**

28. You lead your battalion around the village, managing to avoid much of the enemy fire by clever use of hidden ground. Coming out into the open above the village you find yourself faced by two fresh companies of Japanese holding a woodland edge. They fire from cover and men begin to fall in your ranks. You could turn back and try to storm the village again (**go to 23**), or try and get back out of the valley altogether (**go to 27**). If you stay and fight it out you will certainly attract the attention of the enemy in Li-chia-pu-tzu, but if you decide to weather the storm **go to 25.**

29. Your next charge gains a little ground as the enemy fall back. But they keep firing. The 24th can be seen through the smoke, but they are a mile away and will take some time to reach you. There do not seem to be any more Japanese coming to bolster the line you are attacking, only those moving to try and separate you from the 24th. Will you make a fighting withdrawal (**go to 2**) or rally your men for one last charge (**go to 12**)?

HISTORICAL NOTE

The information available to the Russian player in this solo is scanty, especially regarding the numbers of Japanese troops facing him. This is entirely in accord with the actual event, as is shown by the notes below which are based on a British artillery officer's report of the incident.

The Japanese had recently occupied the pass of Mo-tien-ling, and had sent out picquets as far as Li-chia-pu-tzu at the foot of the valley. At 4 a.m. a Japanese patrol returned in the darkness from a reconnaissance of the Russian lines. They reported nothing untoward, so the small force in the village was taken quite by surprise when a few minutes later one of their sentries fired and a swarm of Russians overran the village.

Leaving only a handful of men to hold the village the commander of the Russian battalion, wasting no time, moved straight through the village and onto the ridge where he would be in view of both temples and the next valley in daylight. Here the Russians met with some small groups of Japanese who fired at them from the edge of a wood. Seeming unable to decide where the greater threat lay the Russians bent their line this way and that, until their officer commanded an assault. They went in with the "hurrah and the bayonet", which was how the army still trained its men to fight, but were bloodied by the Japanese rifle fire even before they crossed

blades. Unable to break through the Japanese lines, unable to determine the numbers of Japanese troops involved and unsupported by the other Russian battalion, the Commander of the Russian battalion ordered a slow withdrawal.

The Japanese suffered some fifty casualties in the fight, while the Russians had fifty dead, left for the Japanese to bury, and as many badly wounded men captured. The lightly wounded were evacuated during the withdrawal, while only two were captured unharmed, which suggests a reasonably orderly retreat.

After the fight, the Japanese were puzzled by the apparent unpreparedness of the Russians. They seemed unaware of the Japanese strength in the pass, but had sent a small force, only two battalions, three miles ahead of their lines, in the face of an enemy army, to hold a vital pass. The captured and dead Russians were loaded down with cooking equipment and several days supply of food, so it seemed that they were intended to hold the pass without support.

They counted themselves lucky, however, that the two Russian battalions had not managed to co-ordinate their assaults, as the numerical superiority this would have created must have driven the Japanese out of the pass. As it was the Japanese put the fiasco down to what they saw as typical incompetence on the part of the Russian staff.

CAMPAIGN MAPS
AN ALTERNATIVE TO THE HEXAGON

by Geoffrey Kearns

Wargames maps are primarily used as a means of governing movement of troop units within a campaign scenario, they provide a means of tracking troop movement by reference points and a pictorial overview of the campaign scenario. Movement rules generally come in the form of so many units distance per time period, e.g. 5 miles per hour. Thus movement is regularised in two mediums Distance and Time. Distance is usually stated in terms of historical units, miles or leagues etc or in terms of a grid system, squares or hexagons etc.

Hexagons are by far the most popular.

The time scale is often worked back from the miniatures rules eg. one tabletop move equals one hour therefore 24 tabletop moves equal one day. Alternatively it may be fixed to lengthen the time between engagements, one campaign move being a week, a month or even a season. When setting up my mini-campaign, I asked myself if this type of map/campaign system best served my purpose. To answer this question I needed to know what I wanted from the campaign. The purpose of my campaign was as follows:

1. to provide battles, games of a manageable size for a solo player to complete in one evening.

2. to provide enough strategic reasons for a battle, game to be played in a number of ways ie as a General action or Skirmish etc.

3. to provide the feel, atmosphere of a minor? 1914-15 campaign (The Russian campaign in Austrian Galicia).

4. to achieve the above three points whilst maintaining simplicity.

I first abandoned the hexagon grid. The basic problem with the grid is that it allows movement in all directions. Some people may penalise some troop types in certain terrain but very few will say that an army may only campaign in a given area. However most armies in history are very limited in the areas in which they can operate. constraints being put on them in a number of ways.

The first and by far the most important, from a wargamers' point of view, is tactical. Tactics, apart from determining the way in which an army performs in battle, also determines the way in which that army will march, the terrain in which it fights and the way it is supplied. All of these things have a bearing upon the way in which a campaign is conducted making each historical campaign unique in itself.

Whilst most wargamers enjoy playing totally ficticous campaigns, they like their armies to operate as those of the period did. I feel that a hexagon grid offers too much tactical freedom. In reality the number of options open to an army commander would be severely restricted. The most notable generals in history are the ones who make the utmost of the options available.

The other problem area with the hexagon grid is the need to determine when an engagement takes place and where the engagement is to be fought. Various methods are used by wargamers to transfer a "map contact" to the tabletop, most of these use some form of detail map and a fixed map area which represents the wargames table be it 4x4,4x6, or what have you. Again I feel that this is unrealistic in that historically most general actions take place at preselected locations known to both sides and it is the manoeuvring of armies in and out of these positions that constitutes the campaign. The exceptions to this are skirmish encounters when in all cases, excluding ambushes, neither side has much knowledge of the terrain, rendering the detail map useless.

If, as I suggest, you abandon the hexagon grid what do you replace it with? The system that I have evolved uses the table area as the basic map component. If you accept that warfare in most periods consists of armies marching to and from the battlefield/

sieges along well used historical routes with skirmishes taking place at various non-strategic points in between, then your map need only represent those battlefields and the connecting routes. The tabletop area can amply represent the battlefield, the connecting routes need only be those of any importance to the period being played. However if we are to no longer represent the entire campaign area, then we must have a system or group of criteria to determine just what we represent. This can best be explained by illustrating my own campaign map for the Russian campaign in Austrian Galicia in 1914.

The system that I am about to explain tries to fulfil my original campaign requirements whilst emphasising three aspects of 1914 warfare that I feel make the period unique.

1. Rail Transport.

2. Reconnaisance.

3. Fortress Towns.

The map itself is constructed around the basic tabletop map unit of which there are two types, Control Tables and Tactical Tables.

The Control Tables represent the primary objectives of the campaign, the Tactical Tables represent the number of potential Battlefields in the area. The routes between the tables being indicated on the map and these are the only permissable means of movement. Campaign time is only used when moving from Control Table to Control Table, movement between Tactical tables not being recorded.

When drawing a map of this type the first consideration is to the number of primary objectives to be contained within the campaign map area. This will largely depend upon the period portrayed and the required duration, more objectives means a longer campaign. In 1914 emphasis placed upon Railways, movement of troops and supplies to key areas being by this means, inevitably led to railheads or marshalling yards becoming key objectives. Galicia contains six such towns or cities with important rail centres and marshalling yards. As a reasonably uncomplicated campaign was required I decided upon these six primary objectives. These became the Control Tables,

The next consideration is to how many Tactical Tables surround the Control Table. This is a matter of personel choice largely dependent upon the tabletop rules and size of game required.

The other factor is how difficult an objective is/was/could be to attack or defend. The number of Tactical Tables can also reflect the level of Strategic importance a Control Table has. A look at the map will show how many I settled upon. Lemberg was the controlling element of the entire campaign and therefore contains the largest number of Tactical Tables.

Occasionally routes of movement are open to armies through difficult (or hostile) country. One such route is shown in the longer route from Tarnopol to Stanislow and represents a series of low level mountain passes hence the two Tactical Tables at a low Strategic point. Terrain upon the Tactical Tables can be decided in advance of the campaign starting or after varying levels of reconnaissance as best suits the tabletop rules to be used.

Movement between control areas is relatively simple. The movement rates for my 1914 campaign are laid out with the map as is train capacity and the number of forts and train units at each town.

The whole point of this structure is that my armies are no longer free to blunder up and down the map looking for each other, but rather know where the enemy is.

What they do not know is, what level of opposition they will meet or for how long. As can be seen from the map each Control table has a number of forts and a number of trains. Trains may be represented by counters on the map or a campaign log kept of their movement. The train unit capacity is a figure that was set arbitrarily, to keep the size of my games down to brigade level, my wargames table being only a 4x4.

Aircraft must follow roads or rail routes on reconnaissance missions, these being the areas of principal interest to army commanders. Aerial reports may be simulated by using any suitably simple, haphazard method. Reports of the period contained such information as direction of moving columns, troop concentrations, signs of engagements and also movement of friendly troops.

To simulate the presence of Forts at some of the towns, I allow occupying armies an equivalent number of heavy guns. These may fire into any of the Tactical Tables contained within the Control Tables area, by what ever method fits in with the tabletop rules being used. The Forts fall once the Control Table falls, Forts are not allowed to fight on alone nor are they allowed to fire outside their own Control Tables area.

The map itself should illustrate my ideas. It could really do with other maps, one for Russian Poland and one for Hungary to become a fully usable campaign map, but it is a start. I hope that this article has made you stop and think whether the campaign maps that you use help you achieve the campaign that you want, or do they destroy the atmosphere of the period you have chosen rendering each campaign the same.

**CAMPAIGN MAP FOR
1914-1915 of AUSTRIAN GALICIA**

No scale, times on route to be multiplied as follows:-
  × 1 day all troops marching
  × ½ day all troops forced march
  × 2 hours rail journeys
  × 1 hours all aircraft

1 train = 4 train units. 1 train unit may carry 1 battalion,
1 field bty, ½ sm.Bty.
All aircraft move along roads or rail routes.

RUSSIA
RUSSIA

CRACOW
2 - FORTS
2 - TRAINS

PREZYMSL
4 - FORTS
4 - TRAINS

LEMBERG
3 - FORTS
3 TRAINS

TARNOPOL
1 - FORT
1 - TRAIN

HUNGARY   NORTHISH
HUNGARY

STRYJ
0 - FORTS
1 - TRAIN

STANISLAW
2 - FORTS
2 - TRAINS

HUNGARY
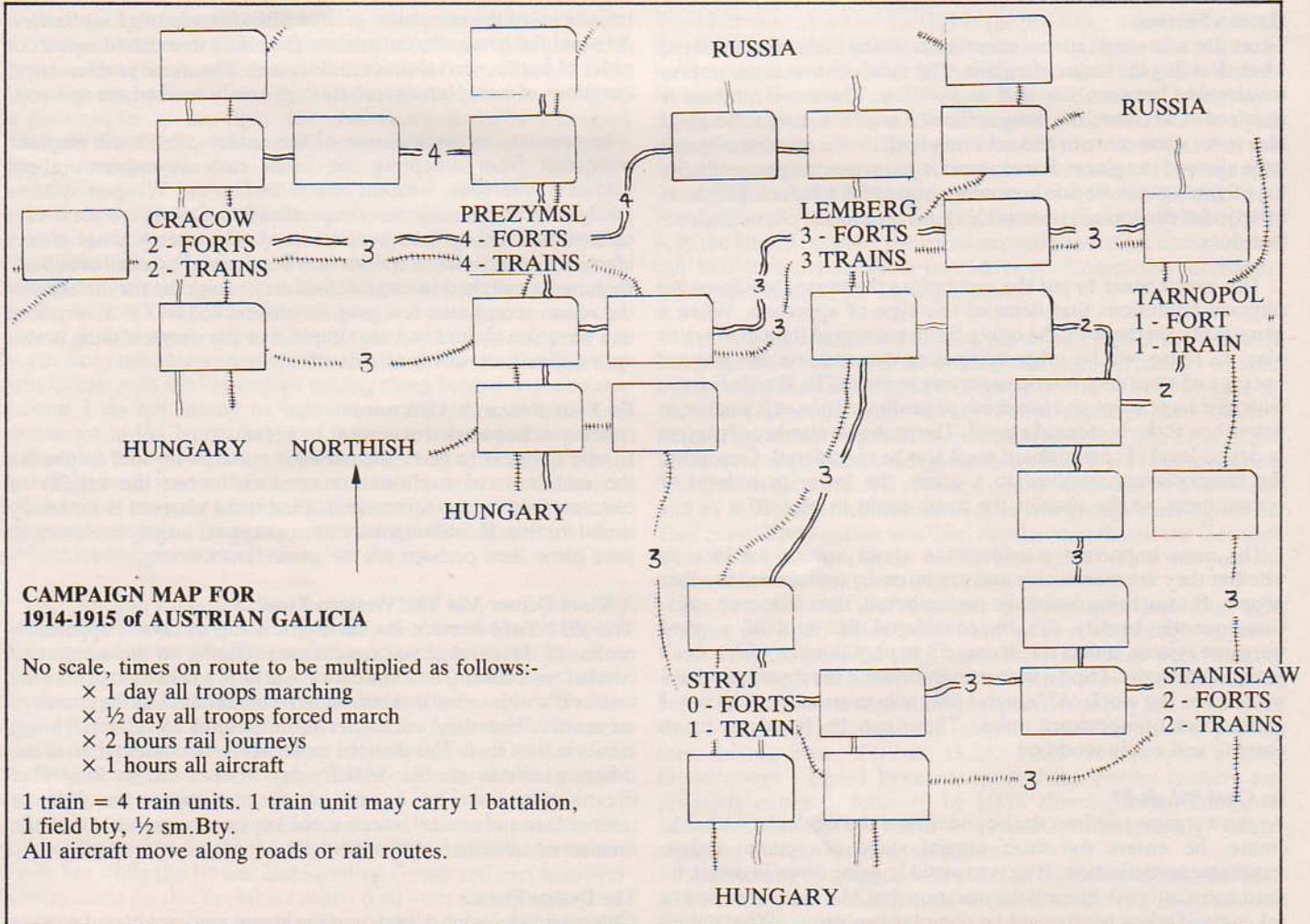
THE HITCH-HIKERS GUIDE TO WARGAMES DESIGN

by Richard Brooks

In a sense, every wargamer makes design decisions, even if he "subcontracts" most of the work by buying off the peg sets of rules. Often these decisions are taken implicitly, without any realisation that other choices could have been made. This is a pity as apparently trivial decisions can lead to problems later when change will be difficult and possibly expensive. A clearer understanding of the design process can help produce more informed design decisions and hence better games at less cost.

Know where your towel is:

The most important thing to do is define clearly the scope of any game under development. This is essentially a matter of pleasing yourself, but needs to be done nonetheless. Most wargames are played for relaxation: hence their form is not to be dictated by professional pundits who stridently denounce or advocate games of a particular type. The level or style of a game and the type of player aids to be used (e.g. figures, maps, cardboard silhouettes, rhomboidal tables etc.) depend on what the eventual user wishes to pay for, whether in cash or operational constraints. How a system is implemented matters less than what is expected of it. All this is not to imply that there may not be a requirement to play a game with specific means. I like Peter Laing colonial figures, so I use them for nineteenth century colonial wars even though 5mm figures might be more convenient. The decision to use particular implementations, however, must be a conscious one, made in full awareness of the resulting self-imposed constraints.

Human Factors:

There are some operational constraints which must be considered when deciding the scope of a game. The most obvious is the inverse relationship between size and play-ability. The more function is required of a system, the more difficult it will be to use. It is a good idea to set some more or less arbitrary limit on the amount of detail to be allowed in a game. For example if you are writing a set of rules for a figures game, decide how many pages of A4 are acceptable. If a particular design fails to meet this limit then modify it, or find one that does.

This may appear to put the cart before the horse, but there are physical limitations that demand this type of approach. When a game is played there will be only a finite amount of time in which to play it. There will be other competing demands on the players' energy and attention. It is no use trying to play SPI's *War in Europe* with nine large maps and hundreds of cardboard pieces if you live in a shoe box at the bottom of a pond. The probable number of players and their level of commitment must also be considered. Generally, the more players involved in a game, the lower their level of commitment, so the simpler the game ought to be.

The most important consideration about any set of ideas is whether they are memorable and can be easily transmitted to other people. If something cannot be remembered, then it doesn't exist. Consequently brevity can be considered the soul of a good wargame system, unless one is content to play alone or with a small group. Personally, I find it increasingly difficult to remember what I wrote even last week. Although I play solo more often than not, I prefer back-of-a-postcard rules. These can be typed up in an evening and easily modified.

De Quoi S'Agit-il?

As the wargamer defines the boundaries of the model he wishes to create, he enters the most crucial stage of system design: requirements definition. If he is to avoid bogging down in detail, he must constantly ask himself the question that Marshal Foch used to ask himself when confronted by complex problems: 'What's it all about?' Before any design decision can be made, one must know what it's all for. It's no use designing an elaborate and hyper-authentic system for small arms fire if over 75% of all casualties are caused by mortars and artillery. At the same time irrevocable decisions about the hardware to be used must be avoided as these will limit the game's development unnecessarily. Indeed as far as possible a game should be independent of how it is to be implemented.

The Myth of Research:

It is at this point of the design process that some research should be done in order to understand the environment to be modelled. Not too much however: research of an unstructured nature can be as dangerous as none at all. Research is like experience; without imagination it remains devoid of insight. Without a trained historical approach, the researcher is no better off than the mule in Frederick the Great's supply train that had seen forty campaigns and was still a mule.

Research can all too easily pile up distracting trivia if the essentials of the subject are not identified early on and pursued single-mindedly. For example, a satisfactory simulation of the Waterloo campaign depends far more on a proper understanding of the nature of war than a minute and tedious knowledge of the OB of the *Armee du Nord*. Rarely has a campaign more clearly illustrated Clausewitz's analysis of war as the interplay of uncertainty, exertion, chance and danger. Little of this comes out in commercial treatments of the campaign, such as SPI's *Napoleon's Last Battles*. As usual the game concentrates on the easily researched aspects of order of battle, arrival times and terrain. The more problematical questions of how Napoleonic strategy really worked are ignored.

In general, an appreciation of the nature of war will stop the wargamer from accepting the usual easy assumptions about soldier's behaviour, weapon effects and so on. Weapon systems rarely meet the manufacturer's specification. Orders are not always carried out, if they were ever received. The enemy is not always identified as such, while friends may be received by a hail of bullets. Regiments marched through woods may vanish for the duration of the action except for a few gung-ho officers and NCOs. Everything in a wargame should be very simple, but the simplest thing is also very difficult, or words to that effect.

Do Your Research Afterwards
(when you know what you want to prove):

In case I appear to decry the need for research I would emphasise the usefulness of confirmatory research to test the validity of concepts as they are formulated. First hand material is especially useful for this. If contemporary sources appear largely irrelevant to your game then perhaps it's the game that's wrong.

A Short Detour Via The Western Front:

The 1914 Field Service Pocket Book is full of details apparently useless to the average waragme, concentrating on the minutae of combat resolution. Tables of data about field works or logistics only matter if a wider view it taken than the ten minutes at the climax of an assault. But they are rather more helpful for understanding tactics in the Great War than the most precise documentation of the differing effects of the SMLE and Mauser rifles. Tables of organisation take on a new significance when the flow of information and control is seen as the key to success rather than the number of sabres and bayonets.

The Design Phase:

Only when the hitch-hiker's requirements are known and written

down, should he proceed to actually designing game systems. This may sound bureaucratic, but is actually very productive. Too much so, as I can now design wargames faster than I can play them, let alone paint figures.

Once the requirements are clearly defined it becomes a simple mechanical process to fill them out with game mechanisms. For example, if you want your Army Corps to march an average of fifteen miles per day, with a maximum of twenty and eight miles then all you have to specify is the rolling of an average die, its score being multiplied by four. If you differentiate leaders' abilities then add or subtract one from the original score to reflect the difference between a Bonaparte and a Melas.

This may appear a horribly crude approach to design. It doesn't matter; as long as your requirements are met, the simpler the design the better. Simple designs are easier to use and require less maintainence as they contain fewer bugs. They need not however reduce the interest for the designer. The provision of elegant and simple solutions to complex and often contradictory requirements poses far more of a challenge to the game designer. It is not necessarily easy to produce a game that is easy to play but complex enough in its workings to be interesting.

Divide And Rule:
One way of simplifying game design is to modularise. Logically distinct parts of the system should be separated, so the user only has to learn the parts he is interested in. At a basic level this means not muddling the movement rules with the points system. More subtly it implies broader subdivisions between such things as: · Tactical rules needed by junior commanders on the ground/tabletop

· Command and Control rules needed by the higher command
· Logistic rules needed in between face-to-face confrontaions
· Strategic attrition and replacements
· Weather rules and so on

Some form of loose leaf presentation should be used to avoid ploughing through a 30 page book every time a picket discharges his firelock. A personal computer with its facility for 'menu' style presentation would be ideal if one had the £££'s.

Bending the Rules:
Another advantage of modularisation is a more flexible design. Changing one module need not imply a total rewrite. Flexibility is particularly important where complex hardware (e.g. model soldiers) is needed to play the game. The life of a set of rules may be as short as one game. The ife of a toy soldier may be decades. In practical terms this implies not hard-coding any one design by such practices as:

· Fixed unit sizes: real units vary enormously in numbers. A convenient number of figures under one system may not fit another. I try to collect figures in large multiples like 24 or 36 so that re-organisation doesn't involve redundancy or repainting.
· Funny base sizes: always try to use the same base size whatever the period. It's easier to fudge a set of rules than rebase an army. Anyway base sizes are mostly a matter of what looks best and stops the figures falling over. They can only give a poor reflection of an obscure and intractably variable reality.

Napalm in the Morning:
Apart from the scent of victory, what makes for a good game? There's more to it than worrying about base sizes, whether one wishes them to conform exactly with the Regulations of 19th Vendemaire Year VI or whether one would scrap them entirely as too tidy by half. Either approach shows too much concern for the hardware used, and not enough for the overall effect produced. As long as the physical details are broadly correct then there are other, more important, indicators of the success of a game. Just what these are depends to a degree on personal choice. My own suggestions are as follows:

· Is the result the outcome of a series of lesser decisions? These obscure the developing situation, as some will tilt the advantage one way and some the other. This gives a more satisfactory game as

the astute, but losing, commander can try to pull off before disaster becomes irretrievable.

· Are the main problems of the game related to the internal Command and Control of the forces rather than reacting to the enemy's behaviour? In reality this is dimly perceived compared with the problems of persuading one's own troops to do anything.

· Do strength of will and common sense prove more useful than tactical subtlety which is often only a snare and delusion? Flank attacks look good on maps, but tend to cause loss of control, dissipation of effort and hence defeat in detail. It's often better to simply smash the enemy centre before he has sorted himself out.

· Is there a low level of information about:
  – the precise effect of ground on movement, until you try it.
  – enemy morale and equipment: in 1944 British tank crews thought all Panzers were Tigers.
  – precise positions of enemy concentrations, particularly reserves. Lack of such knowledge forces wargamers to operate in depth and even to reconnoitre. Otherwise they risk suffering devastating tactical surprises.
  – own or enemy reaction time to changes in plan.
  – actual weapon effects outside broad limits such as: a battery can defend its own front by its fire. Variations in ground and formation cause a wide range of effects that are not always predictable. The lie of the ground may match the trajectory of the enemy's fire, making an apparently safe area into a
· killing ground. Alternatively a fold in the ground may unexpectedly give cover to a firing line. The saving throws used in many of the original wargames rules gave just this type of uncertainty.

Presentation:
All the above come down in the end to personal preference, despite my assurance in reeling them off. What does not depend on personal preference is the way the design is presented. The purpose of any document is to communicate its contents. If the presentation of an idea obscures it, then the idea might as well not exist. The ultimate test of a game is: Can it be played by someone else, without lengthy personal explanations? There are various ways of ensuring it can. One of the best is to 'walkthrough' the design with someone not particularly involved in the hobby. Wives are good for this, as they have few inhibitions about pointing out one's faults! A walkthrough implies not just reading, but paraphrasing, what has been written. This is a good test of the effectiveness of your deathless prose as a communications medium.

There are some general points about how a game design should be presented:

· Be brief: the less you say the less room there is for misinterpretation.

· Avoid sentences more than 24 words long.

· Use tables where possible rather than text.

· Use short words and avoid jargon, particularly unmilitary or anachronistic jargon such as ZOC's, bounds, Extra Heavy Light Infantry, etc.

· Eschew gratuitous obfuscation (see what I mean?): make it obvious what is going on. Real regiments under fire do not lose organisation points. People fall over with exit holes the size of soup plates. When casualties occur, knock the figures over or scatter 'deaders' around.

· Use a standard set of terms so that other people can tell when you are talking about the same thing and when you aren't. Programming constructs such as IF, THEN and ELSE or DO UNTIL can also be useful as they enforce a structured approach.

· Have a glossary so that obscure military terminology can be explained 'offline'. The concepts behind the game are also best explained outside the actual playing rules.

Suck It And See:

The final stage of the game design process might appear to be trying it out. However playtesting should not be left entirely to the end. Ideas should be tested as they are developed, even if only on paper. Do the results of a given algorithm conform to the requirements? Is the range of results possible both reasonable and acceptable? The more thoroughly a game is prototyped in this way, the fewer nasty surprises await the designers when it is unveiled to Other People. The 'Muggergame' technique of developing games by a process of discussion is an excellent way of eliminating bugs from a game before they even get into it. Personal bias, inaccurate assumptions and cloudy analysis will be exposed to criticism before being enshrined in the written word. Even if you don't want to play all your games as muggergames the technique is a good way of developing a concensus among a group of wargamers. This need not only be about a game system but, more significantly, about the sort of historical interpretations that underlay the game.

Full Circle:

The true game designer will find at this point that he still hasn't reached the end of the road even with a fully tested and perhaps popular set of rules. Playing a game for any length of time produces a whole new mass of requirements. Some of these will be spurious: 'Why don't my Ultra-Heavy Scythed Chariots get better factors against Varangian Guards?' Others will be valid and will start the whole cycle going again. This is not a bad thing and should not cause disappointment. Redesign prevents stagnation and also forces the wargamer to consider different views of a complex and obscure subject. An appreciation of how these views fit together is not the least important payoff from adopting a positive approach to wargames design.

WAGRAM

A refight in 1/300th scale
by
Peter P.H. Heath
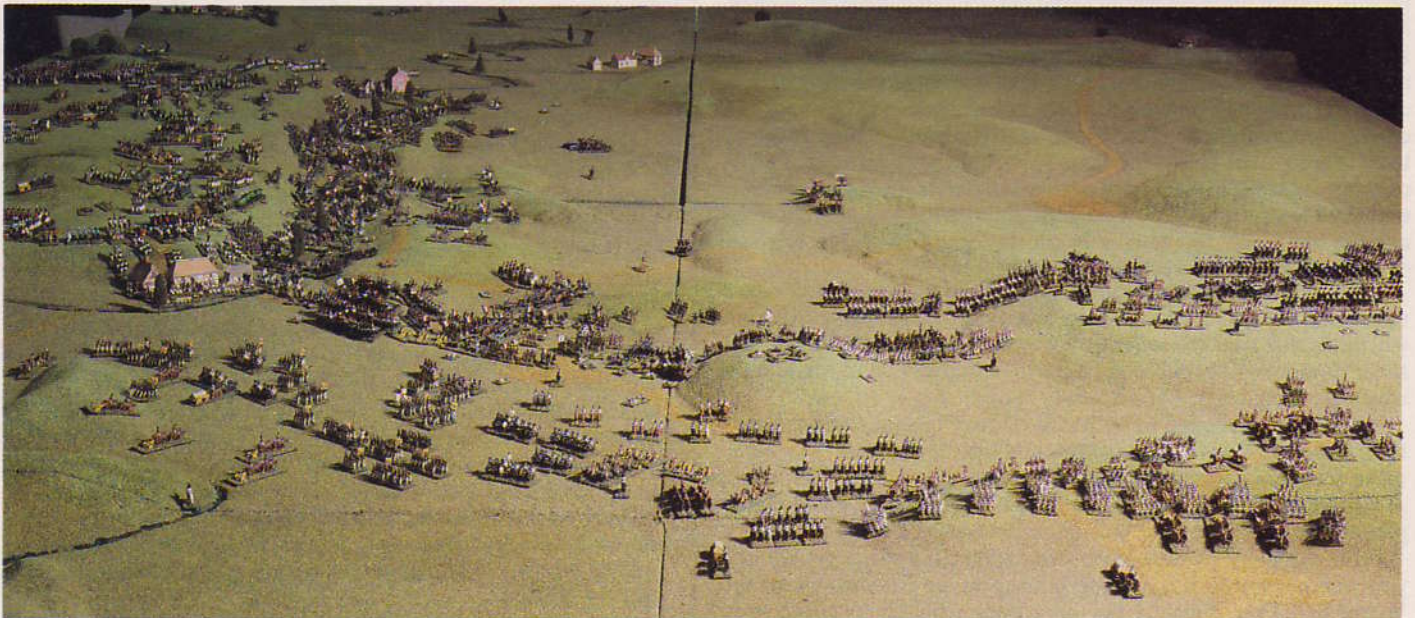
PART 1. Promoting the Event, and giving the Public a *Positive Image* of Wargaming.

If we in this hobby are to be taken seriously, and shrug off the image of 'men playing with toy soldiers' which is one which the Public and Media alike have in the past so often, and with some justification, branded us, we must be prepared not only to let the General Public know that anyone using the epithet 'playing with toy soldiers' is seriously misinformed, but also make sure that the maximum number of non-wargamers *see* that this is the case. So what happens at present?

There are those who say that Wargames Conventions give the General Public an opportunity to see us 'on parade'; but, to be honest, we all know that conventions are for wargamers, and interested/curious members of the Public are in a minority so small as to be hardly worthy of mention. These events are so well advertised that unless you read one of the wargaming specialist magazines you wouldn't know what was going on anyway. Be honest, do you really think that there are droves of interested/curious members of the Public fighting each other in W.H. Smiths to get at a Wargames mag? (Answers on the back of a postage stamp....)

Assuming that you, dear reader, consider that my above diatribe contains more than a grain of truth, let me tell you about the Wagram game, the combat details of which will be covered shortly. (Honest!)

A game on the massive scale of Wagram means that it can, if you are prepared to 'push', become a 'Media Event'. Local newspapers are always hungry for 'Human Interest' stories, and at weekends in particular often find things a bit slow, so invite them. Nine times out of ten they will send along a reporter and photographer. Here can be your biggest problem. If you don't give the hard worked reporter, who has probably just moved on to these types of story from Births, Marriages & Deaths, (the lowest form of journalistic life), a PRESS BRIEFING which outlines the points you wish to make, he/she is going to get some of the facts wrong, as sure as God made Dan Quayle Deputy President. This way you can more or less guarantee a photo set and article next day. So now the General Public begins to be educated to view wargames more favourably.

A tougher nut to crack is getting your local TV station interested enough to come along with reporter and film crew. Rather than writing to inform them of the event weeks or months before, I have, in my limited experience, found that a telephone call on or about the Thursday morning before the event is the best plan of action. Keep the description reasonably general yet exciting. The person you speak to will not be the one who makes the final decision, but if you can get him or her on your side, you are in with a chance. Realistically, you must be prepared for the TV people not to turn up, but if you don't try, you don't get anywhere, do you?

If you find that the TV people do say yes, and duly turn up, depending on what sort of event you are putting on, expect them to be with you for about two hours, and the TV slot which results to be about four minutes! Make sure that the reporter gets his PRESS BRIEFING, and any 'freebies' you can manage. Keep the reporter and crew interested, and don't let any of the players appear to be a complete wally. (Every club/group has at least one of these, so either don't invite him to the event, or if you must, arrange for him to be locked in the toilets until the TV people have gone!) For a TV reporter, there is a great, and perhaps understandable temptation to make his report 'jokey'. You must attempt to dissuade him from making the report too tongue in cheek. How you do this is up to you, but I would not recommend bribery!

The result of TV coverage is *lots* of publicity. At a conservative estimate a slot on a Regional Magazine programme between 6-7pm will mean that over *one million* people will see your efforts! At least some of them will begin to get a positive impression of the hobby, which is surely just what we want.

As if it really needed to be stated, if your terrain and/or figures look tatty, *don't* invite the media, and Oh Yes, where necessary, make sure that you tell the players to look presentable on the day. A demonstration by the 'Furry Freak Brothers' is *not* going to persuade many about the positive aspects of the hobby.

From the point of view of people within the hobby, people like you, in other words, it is no good putting on the Greatest Game the World has Ever Seen, if the only ones who know about it in

wargaming are your personal cronies! If you have a wargaming Event, such as refighting a battle, and it looks very photogenic, you will not lose anything by writing to the Great and the Good in the wargames press and informing them. As in the case of TV, the chances are that they would have to decline your offer, being incredibly busy bees as they are, but as I have said before, if you don't try....

PART 2. WAGRAM, the refight of 1989.

Introduction

As you will (hopefully) see by the photos of the Battle of Wagram Refight, which appear here, it was, in its way, almost as much of a spectacle as was the original 180 years before!

But before an account of the refight is undertaken, it would be most unwise of me to assume that all those reading this article are aware of the events of 1809. For those who don't know, here is a potted history.

Since 1805 and the defeat at Austerlitz, Austria had been waiting to strike back. During the Spring of 1808 hopes finally began to rise as the French became more embroiled in the war in Spain. By the end of August preparations for the 1809 campaign began. In April 1809 Austria declared war and moved forward, but the army, under the command of Austria's most able Commander, Arch Duke Charles, was defeated at Thann, Abensberg and Echmühl, and forced to retire along the Valley of the Danube to Vienna. At Aspern-Essling Charles inflicted a defeat upon Napoleon, but the

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BRIEFING NOTES

The battle of Wagram was the last, and crucial battle of the 1809 Campaign along the Valley of the Danube in Austria, at which Napoleon and his French Army faced the might of Austria and the Hapsburg Empire.

The Austrian Goverment had, at the outset of the Campaign, decided that now was the time to throw off the yoke of conquest imposed by Napoleon after earlier wars.

The Battle took place over two days, the 5th and 6th July 1809, outside the gates of Vienna. In the area of the Battle the French had over 220,000 men and 700 guns, faciong the Austrian Army of 167,000 and 600 guns.

In the original battle there were drastic swings of fortune for both sides. At one moment things would be desperate for the French, the next, desperate for the Austrians. In the end Napoleon and his Army carried the day, and the Austrians were forced to retreat.

The "butcher's bill" at the end of the Battle was horrifying from any point of view. The Austrians lost over 43,000 men, the French 35,000.

The game today represents the area of the main action on the 6th July 1809. There are over 7000 individually painted metal figures, each no larger than a thumbnail and historically accurate in every detail, representing, at a scale of 50:1 the opposing combatants. While the initial positions of the troops is historically accurate, what happens during the game will be dependent upon orders sent, and the way they are acted upon the players. Whether today we see History repeating itself is down to the player's competence or incompetence.

As you can see, a great deal of hard work and detailed organisation goes into a game of this sort, and in this case the members of the Norwich Warriors Wargames Club have excelled themselves. It may be worthy of note, that the rules used today were designed by the club to be used for the 1809 Campaign exclusively.

The players today represent all strata in society. There is a member of the Legal Profession, a Stockbroker, a Lorry driver, a Scientist, several Teachers, a Student, a Nurse, RAF personnel and many others.

This type of game is known as 'Histogaming', because those who take part have a serious knowledge of the History of the time, and enjoy re-fighting Great Battles of History. Anyone who feels that this is in the same league as 'playing with toy soldiers', is, as you can see, seriously mis-informed.

Corsican Adventurer learned his lesson about un-prepared crossings of the Danube, and was most thorough in his preparations for the second attempt. The stage was now set for the Battle of Wagram.

Organisation of the Game

If a game the size of Wagram is to be attempted, organisation, if not being all, is at least 80% of success or failure on the day.

It is only a personal opinion, you understand, but I feel that choosing your players is the first major hurdle. I always attempt to choose and designate players to commands they themselves are most suited to. Fortunately, over the years that I have been organising games like this, (some of which have appeared in the wargaming press) I have acquired a 'core' team of players whose abilities and limitations are well known to me, and to each other. Newcomers are fitted in where it is thought they will do best, and surprisingly, I cannot think of a single instance when they have not risen (or sunk, as the occasion requires) to the level of their Historical Counterpart. For refighting Wagram 19 players and two ADCs were utilised.

I will not bore you with the general principles of paperwork and paper pushing, but instead will give a straight account of what was used for the game, and how, and why – and all in one envelope per player.

Where necessary, it is a good idea to keep the players informed of who is who, so a list of names and commands is a Must. I decided that a list of 'Notes for Players' was also required, which included such things as 'please make sure that you keep the table clear of the usual wargaming impedimenta, (rules, playsheets, beer/wine glasses, loose women etc)' as well as more vital information about Orders and Messages, (of which, more later) and a listing of documents which should be in the envelope.

Each player was provided with a detailed listing of his own Corps command, according to the new Anschluss *Ebb and Flow of Battle* 6mm rules, a Position Map, which noted the location of every unit on the 'field of battle'. An Area Map was also enclosed, showing the larger area, with 'off table' villages, and not forgetting Vienna itself, and last, but not least, a playsheet for the rules. (Just in case anyone hadn't got a copy of the rules, perish the thought!) Finally, each player's envelope was provided with a copy of his "Historical Start Orders".

The two players taking the dubious honour of C-in-Cs, Ian Pudney as Napoleon, and Nic Morse as Arch Duke Charles, were provided with all of the above, as well as a 'For Your Eyes Only' Commander's briefing note, larger size Area map, and complete Army Lists and orders for his own side. The FYEO briefing notes contained information about their paperwork workloads, how to maximise ADC effectiveness, as well as hints of events which might, or might nor occur during the day 'off table'. Also included was the suggestion that each C-in-C produce badges for his Corps Commanders, both to help each of the players to instantly recognise who had what, but particularly to help the ADCs in their task.

While on the subject of ADCs for this game I deliberately chose two of our club's youngest and most inexperienced wargamers. 'Why do this?' you may well ask. 'Is this bloke a sadist?' Out of a sense of well justified modesty I will refrain from answering, but I leave others to judge for themselves! In the meantime here is my rationale.

The job of the ADC was, historically, fraught with difficulty, danger and adventure. The position the two ADCs found themselves in at the game was little different. The players were not allowed to communicate with each other except by means of written messages dispatched by ADC figures on the table. Each side had 26 ADC figures, and at any one time 50-60% of these were occupied in carrying communications. The ADC players were also the only ones allowed to move the ADC figures, so, as you can imagine, there were occasional delays in delivery, and also odd occasions when messages disappeared completely. Ah! The fog of war on the tabletop. At last, reality in wargaming! (Perhaps I am getting a little

THE AREA ABOUT WAGRAM
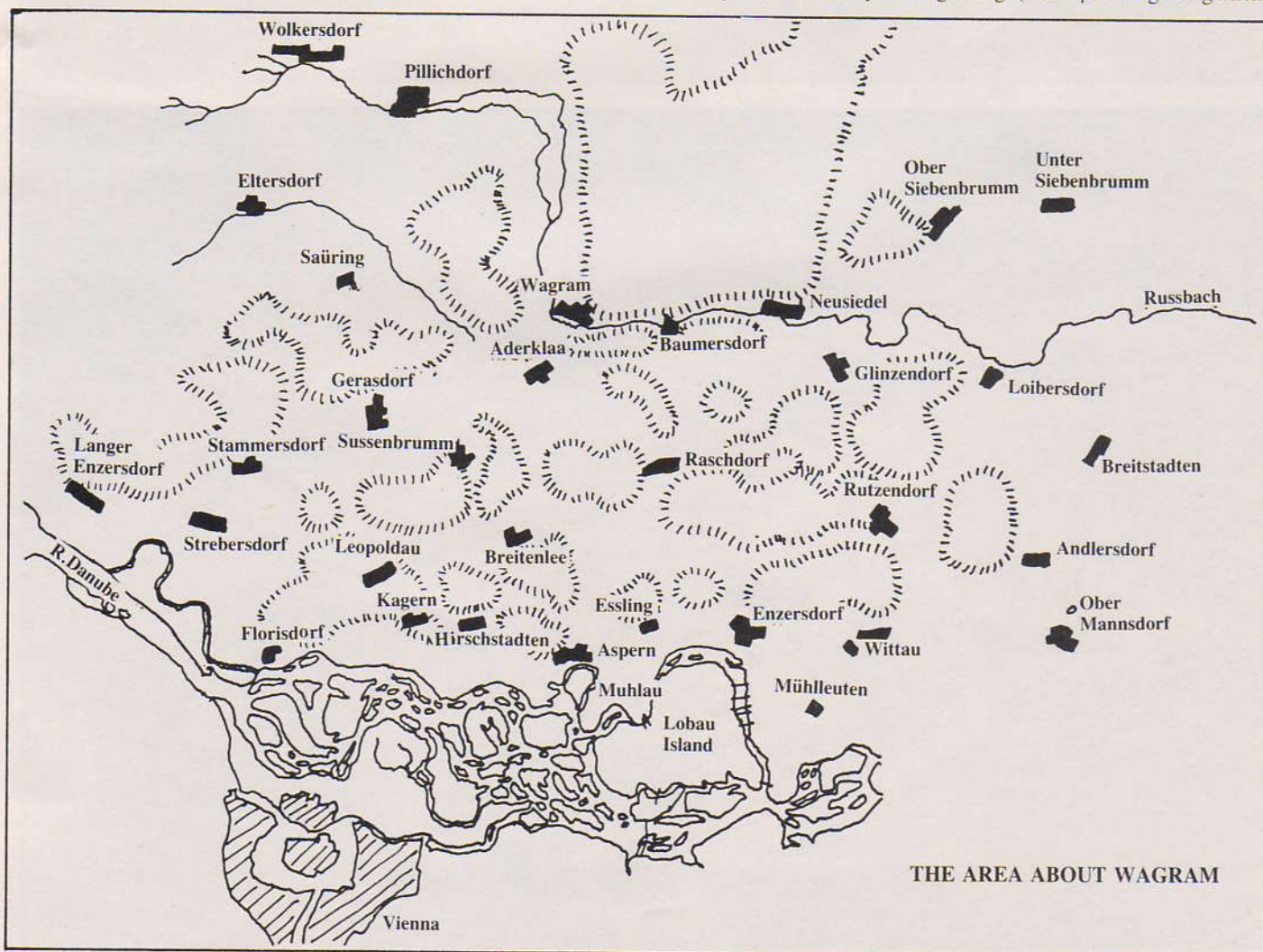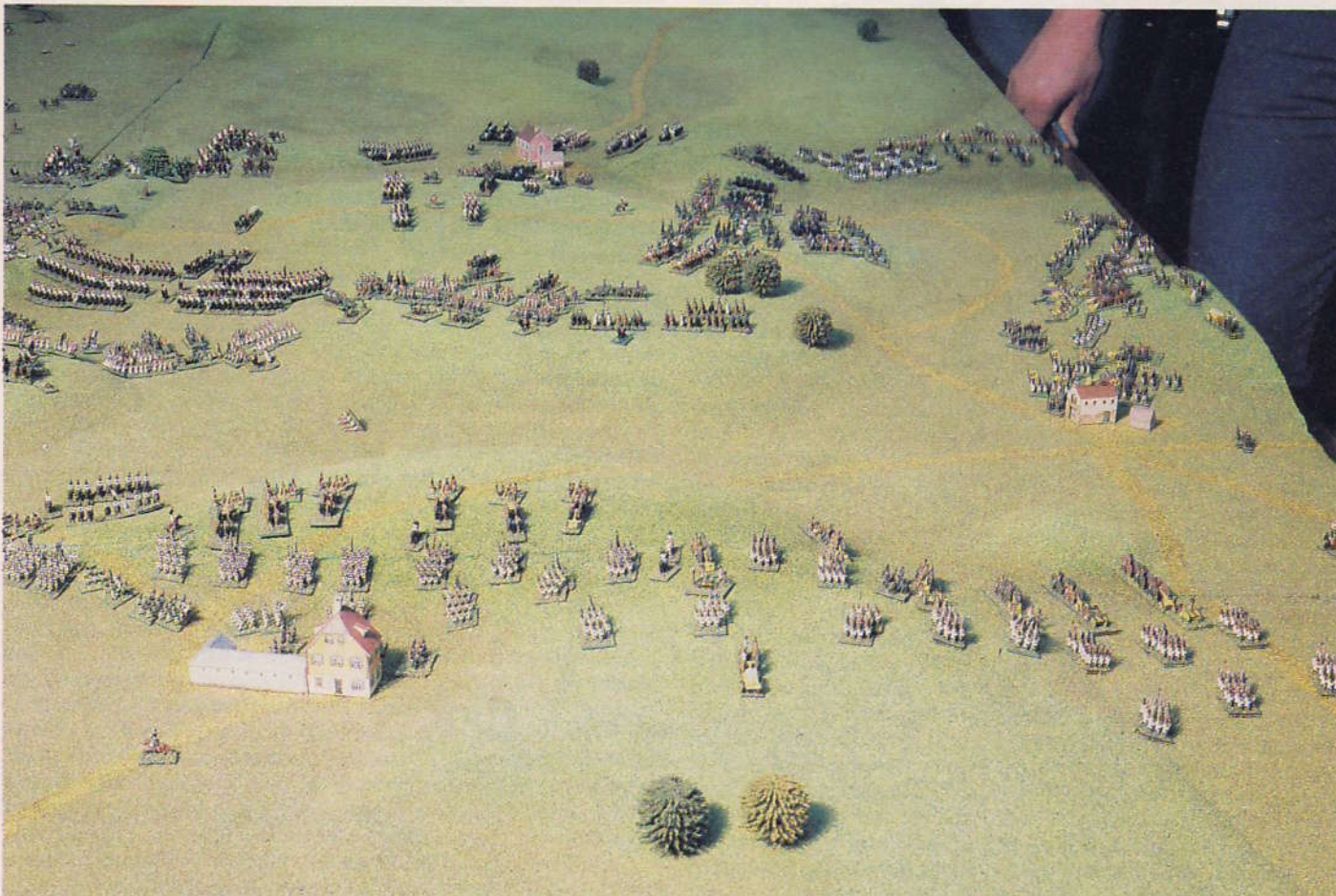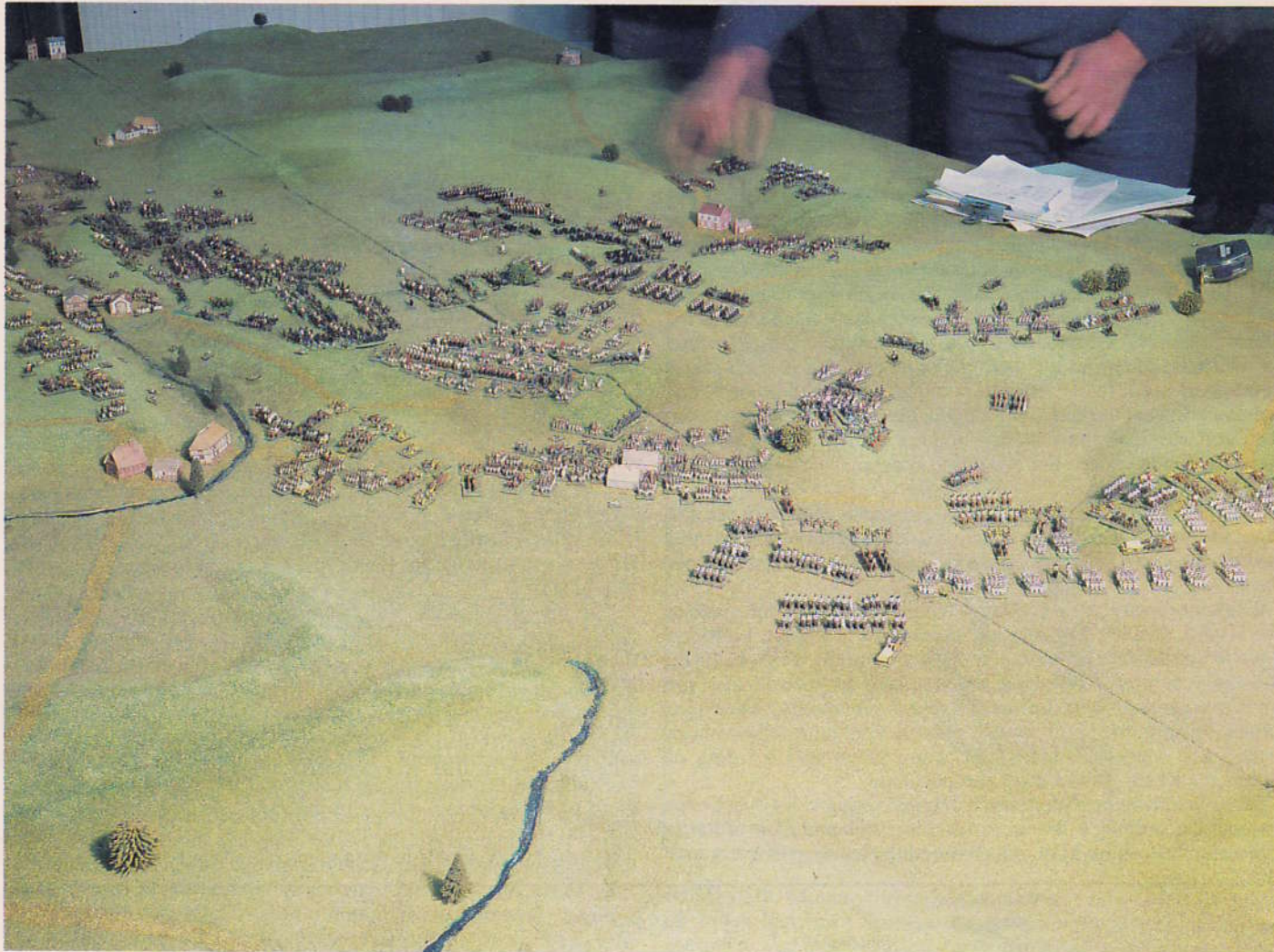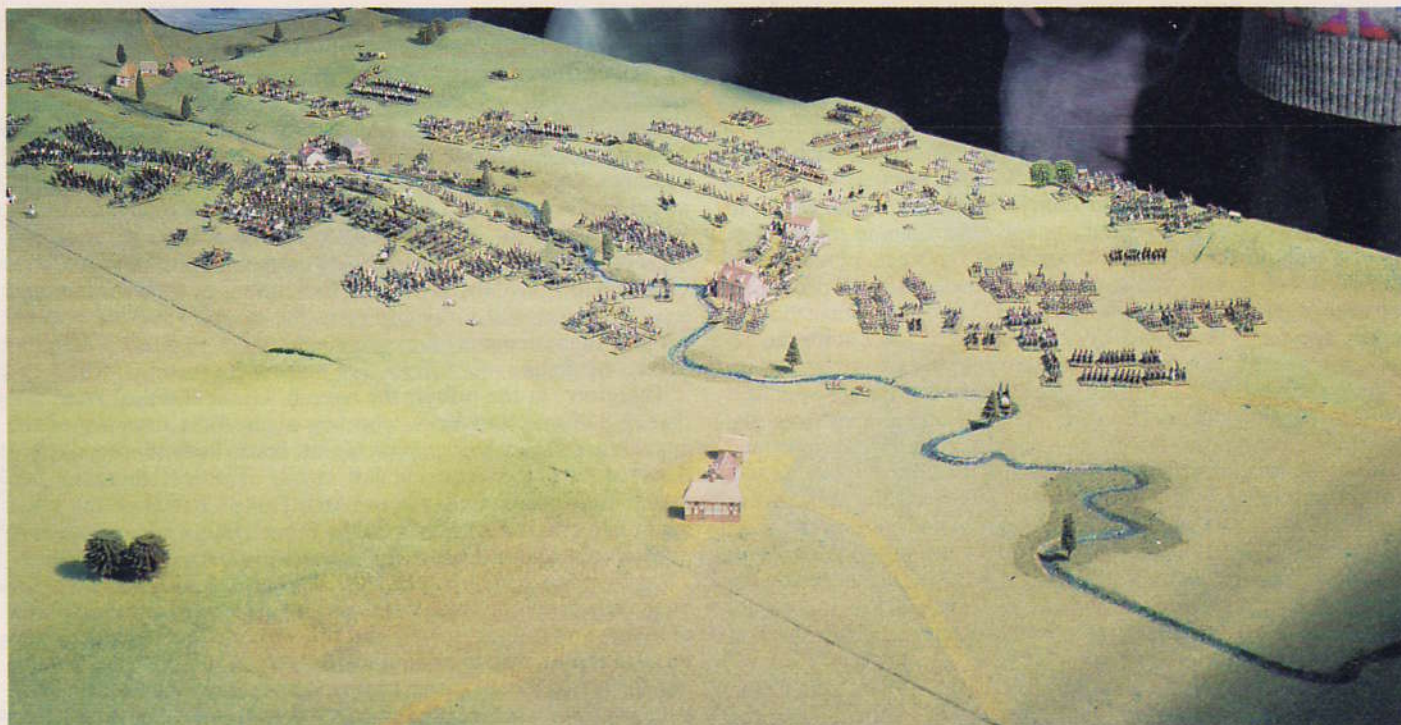
The photos accompanying this feature are rather different from most which appear in this magazine, as they were taken during the hurly-burly of a big game, with – at one time – thirty people (including a 5-strong T.V. squad) round a 12' by 6' table. Most of the time we could deploy only 50% of our usual lighting, and, as the players were obviously keen to do well against a rigorously imposed time limit on each move (!), you can sometimes see models and terrain exposed for circa four seconds, and hands moving troops exposed for 1-2 seconds. Still, it all adds to the atmosphere, doesn't it? It may be some time before we're again able to show you a model village through someone's hand.

carried away, but you know what I mean.) Nonetheless, it is fair to say that the lads, Richard (Austrian ADC) and Paul (French ADC) performed remarkably well and avoided being lynched. A thankless task well done.

And now to the terrain and figures. If you are going to do a refight, you may as well make the terrain presentable, which I hope you will agree is the case from the look of the photos. To produce this terrain, and still keep your sanity, it must be a team effort. In our case five of us worked on it, on and off, for about nine weeks. (By 'on and off' I mean about three hours per week.) I will not go into details of how it was made in this article, but will produce a separate missive at a later date. Suffice it to say at this stage that the terrain you see in the photos cost, in materials, £60-£70 for the 12' by 6' table and is lightweight and hardwearing.

As to the figures, at a conservative estimate there were over 7000 figures, all 'true' 6mm (Beware of Big Pretenders!) from the Anschluss 'Pro-Packs' range, and manufactured by Heroics and Ros. At the time of writing this I have not seen the photos, but you will possibly be able to see that you can get a good standard of painting with 6mm, and for a large scale battle there really is no better scale. You really get the 'feel' of what the real thing might have looked like. 15mm and 25mm figures, while undoubtedly visually attractive, would make the field of combat cluttered, would slow down the action considerably, while effectively nullifying all of your hard work on the terrain!

The Course of the Game
The date; Sunday January 15th 1989. The location; Norwich Warriors Wargames Club, Norman Centre, Norwich. The time; 9.55am.

The players (and Media) have gathered from far and wide, as this is an 'Invitation Only' game. The refight of the Battle of Wagram is about to start. It's a bit like the start of an exam, whispered discussion tapers away to silence as the French players face their Austrian opposite numbers, both sides standing back from their sides of the table, waiting to be asked to start. On the stroke of 10.00am the announcement is made; "Gentlemen, please begin your game." It has begun. As we are playing to the Anschluss rules, which are designed specifically for the 1809 Campaign, no major problems are anticipated, though several players have never used them before. Each turn lasts 15 minutes of 'Historical Time', action beginning at 8.00am, 6th July 1809.

We chose to refight the action of the second day of the battle of Wagram, when the major part of the fighting took place and the decision was reached. (From this point it is a good idea to refer to the accompanying map to locate the points of action.) Extensive research yielded the original orders which each Corps Commander on the day was acting upon at 8.00am, and which the players were also to act upon, until ordered differently. (Please note that under the Anschluss Game System there are the following Command Initiative headings: Attack. Defend and Demonstrate. If you have a copy of the rules you will know the rationale, if you don't, perhaps you should consider getting a set!)

For the French side, Davout's III Corps orders read ATTACK: attack to the front and right flank of Markgrafneusiedl, supported by a cuirassier Division and several dragoon regiments under the command of Grouchy. Oudinot's II Corps orders were also ATTACK: once Davout had captured Markgrafneusiedl he was to storm the heights. Eugene's Army of Italy had ATTACK orders which read the same as Oudinot's. Poor old Bernadotte, with his Saxon IX Corps· was to ATTACK Aderklaa and then Wagram itself. (The historical result of which was the rout of the Saxons, and Bernadotte's being ordered from the field in disgrace.) If Bernadotte had a tough job on his hands, then Massena and his IV Corps, ordered to attack Aderklaa **and** hold the whole of the French left flank, as well as Aspern and the bridgehead across the Danube, could not, at the outset of the game, have been feeling very happy. Wrede's Bavarians. Marmont's XI Corps, the Reserve Cavalry and the Guard had for the moment DEFEND orders.

The Austrian orders, from right to left across their front, were as follows; Klenau and VI Corps (off table), were to ATTACK along the bank of the Danube and attempt to penetrate the French rear positions and capture the bridgehead. Kolowrat and III Corps were to ATTACK against Breitenlee. Leichtenstein's Reserve Corps was to ATTACK in the area of Sussenbrunn. Hessen-Homburg's

Reserve Cavalry was to DEMONSTRATE, supporting the advance of I, III and Reserve Corps. I Corps, under the command of Bellegarde was to ATTACK around Aderklaa, but was specifically ordered to keep its flank anchored on the Russbach stream. Hohenzollern's II Corps, Rosenberg's IV Corps and Nordmann's Advance Guard were ordered to DEFEND, holding positions along the banks of the Russbach to the last. (It should be noted that Arch Duke Charles hoped for reinforcements of Arch Duke John with 20,000 men from the direction of Unter Siebenbrunn at any moment.) Nordmann, with his Advance Guard, which was already falling back on his new position after a less than successful foray earlier in the morning, would find his withdrawal hastened by the close range fire of six French batteries against his flank.

Therefore, at the outset, the overall 'Grand Tactical Plan' was that at 8.00am, Napoleon, who was at the time unaware of the appearance of the Austrians on his left flank, had ordered his right flank to turn the Austrian left, while in effect more or less maintaining position elsewhere. Arch Duke Charles on the other hand, had ordered his attack on the French left, while maintaining position elsewhere, hoping for the arrival of Arch Duke John.

With the start of the game both sides went at it with a will. A flurry of orders and messages were sent this way and that. Each side was wary of the other's plans and capabilities. Units moved forward, and firing was joined. For a game of this size, it may be difficult to believe that an average game turn took, on the day, between 20 and 30 minutes to complete, but this was the case, (even though there were occasional plaintive cries of "5 more minutes, please, 5 more minutes!" But no, the Man Who Knew had spoken, so time moved on.) As the game developed, apart from messages sent by the players to each other, and particularly to their respective C-in-Cs, programmed messages started to arrive from off table. The first of these arrived at Napoleon's headquarters on Gt5 (9.15am) from Massena, reporting the presence of the Austrian III and Reserve Corps. Now Napoleon could react and send orders to counter the threat. The second arrived on Gt6 (9.30am) from General Boudet, in charge of the 4th Division of Massena's IV Corps, off table around Aspern and the bridgehead. Its contents were somewhat disconcerting to the Emperor. It read;

' Sire,
My Advance Guard has been driven back between Hirsch-stadten and Aspern by at least one strong enemy Corps (in reality Klenau's VI Corps). I feel that I will be severely pressured unless reinforced.'
The message was timed 8.00am.

Napoleon's response was to shift the weight of his Reserve to the left without committing it. First to move was the Reserve Cavalry, followed by XI Corps and finally the Guard, all eventually being placed behind the Army of Italy.

At about 10.00am historical time (Gt8) Austrian VI Corps appeared on the table around Breitenlee, and began to advance in the direction of Raasdorf, with ATTACK orders. In response, Wrede's Bavarian Division was thrown against them with Marmont's XI Corps, supported by the Guard Cavalry and all ten Guard artillery batteries. Klenau's Corps halted, and then slowly fell back in the face of this threat. Meanwhile Austrian III Corps had moved up between Sussenbrunn and Breitenlee, but due to events on their left flank, could not effectively move further forward. The said events were concerning the activities of Prince Liechtenstein and his Reserve Corps of crack Grenadiers. Orders from Arch Duke Charles had stressed to Liechtenstein the importance of his attacking as the mainstay of the Austrian advance. Unfortunately for Arch Duke Charles, the player representing Liechtenstein, Richard Partridge, is an excellent defensive player but, by his own admission, is not happy in the role of attacker. (An example of suiting player abilities to Historical Commanders!) The Reserve Corps advance was at a snail's pace, giving the French time to consolidate their front. At one stage Arch Duke Charles was jumping up and down with frustration as Liechtenstein ignored his third reiteration of the ATTACK order. Around the villages of Wagram and Aderklaa an entirely different war was being fought. Bernadotte and his Saxons, along with St
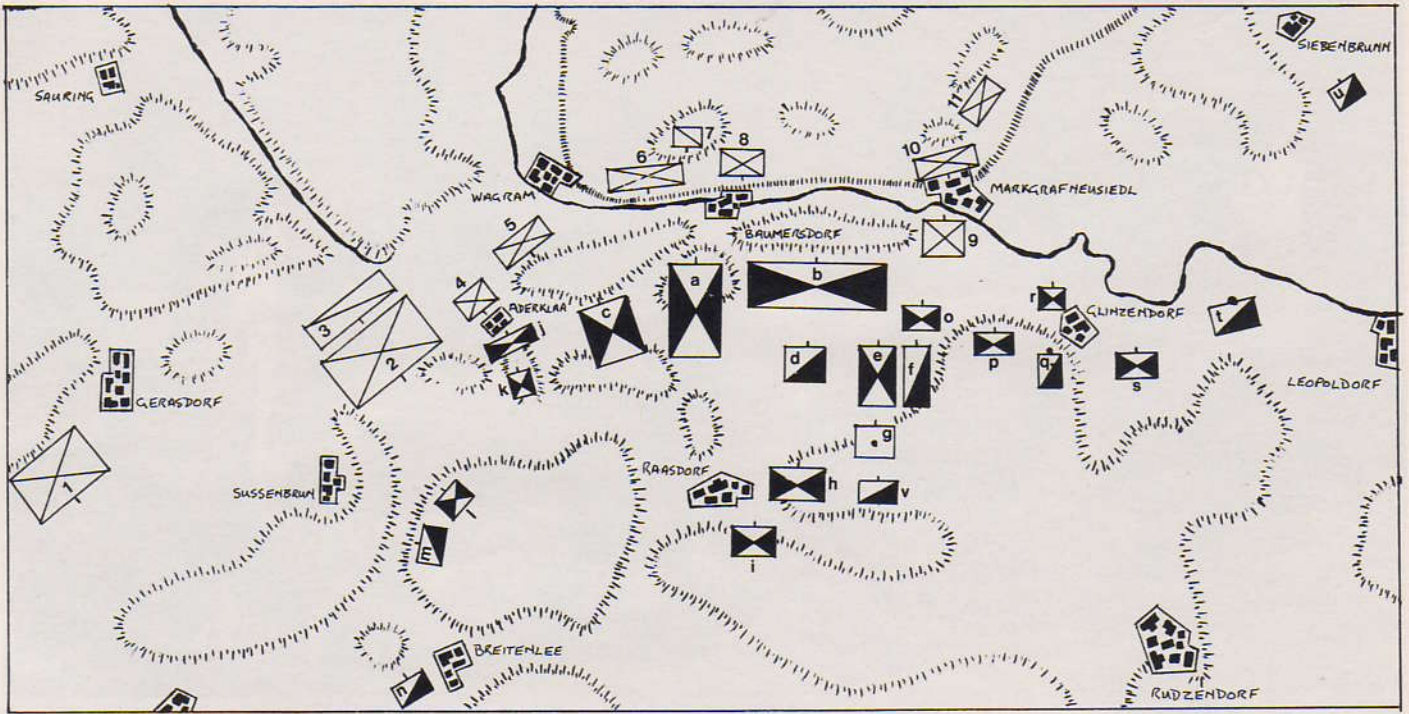
Cyr's Division of IV Corps initially, was having a hard time of it against the Austrian I Corps. Casualties mounted on both sides, but with the arrival of the French Young Guard and Nansouty's cuirassier Division the balance swung against the Austrians. Under increasing pressure they fell back from the villages, leaving most of their artillery behind as a result of a spectacular charge by the cuirassiers and carabiniers.

The larger part of the Austrian front on the heights above Baumersdorf was held by Hohenzollern's II Corps, and facing this formidable position was both the Army of Italy and French II Corps. For some time both sides were happy to exchange artillery fire while events were decided about Markgrafneusiedl by Davout, Grouchy, Rosenberg and Nordmann.

Around the village of Markgrafneusiedl the fate of the battle was about to be decided. At the outset of the battle Nordmann's Advance Guard was retiring behind the stream. at which time it fell under the control of Rosenberg and IV Corps, who had orders to hold his positions to the last. Davout and Grouchy's task was to capture the village and turn the Austrian flank. Bloodshed was about to occur. Davout, rather than tackling the village head on, choose to outflank and isolate it to both right and left. Combining his main assault to the left of Markgrafneusiedl with much of Grouchy's cavalry. Davout found that Rosenberg and Normann were worthy opponents. Repeatedly they threw back French assaults, and only inch by slow inch did they give up ground. Cries for assistance constantly arrived at Arch Duke Charles' headquarters, but fell on deaf ears. Charles had no reserves to offer.

To make matters worse, Napoleon had by now sent orders to Prince Eugene and Oudinot to push their attacks forward onto the heights, orders which the two players savoured with some glee. The gallant Hohenzollern, under this combined and overwhelming pressure, began to be forced from his positions.

Game time had reached 1.30pm at this moment, and 5.00pm in real time. The game had drawn to a close. Napoleon, on reviewing the situation stated;

'Recoiling on both flanks, and with their centre comprised, the Austrian Army was destroyed on the field of battle.'

Arch Duke Charles saw things slightly differently;

'Having fought hard, and being outnumbered, the Army of Austria covered itself with glory, falling back in good order after teaching Napoleon to have respect for the Austrian Army.'

From my point of view, as a mostly unbiased observer, I have to acknowledge that the Austrians did lose the refight, as they lost the original battle. Arch Duke Charles certainly came closest to the truth when he said that the army was retiring in good order. For Napoleon's part, his comments are what one would expect!

TABLE POSITION MAP: WAGRAM, JULY 6th 1809, 8.00am.

FRENCH		AUSTRIAN	
a.	Army of Italy: Eugene	1.	III Corps: Kolowrat
b.	II Corps: Oudinot	2.	Reserve Corps: Liechtenstein
c.	IX Corps (Saxons): Bernadotte	3.	Reserve Cavalry: Hessen-Homburg
d.	Nansouty, cuirassier Division	4.	Dedovich Division: I Corps
e.	Guard Infantry	5.	Fresnel Division: I Corps
f.	Guard Cavalry	6.	Ulm Division: II Corps
g.	Guard Artillery	7.	Nostitz Division: Reserve Cavalry
h.	XI Corps: Marmont	8.	Brady & Segenthal Divisions: II Corps
i.	VII Bavarian Corps: Wrede	9.	Advance Guard: Nordmann
j.	St Cyr Division: IV Corps	10.	Hohenlohe-Bartenstein Division: IV Corps
k.	Molitor Division: IV Corps	11.	Radetzky Division: IV Corps
l.	Legrand Division: IV Corps		
m.	Lasalle Division: IV Corps		
n.	Marulaz Division: IV Corps		
o.	Gudin Division: III Corps		
p.	Puthod Division: III Corps		
q.	Arrighi, cuirassier Division		
r.	Friant Division: III Corps		
s.	Morand Division: III Corps		
t.	Cavalry Corps: Grouchy		
u.	Montbrun Division		
v.	St Sulpice, cuirassier Division		

History, to all intents and purposes had repeated itself. Casualties, though difficult to quantify, as only the main action of the second day was fought on the table, were , if extended to day one and events 'off table' on day two, similar to those of the real battle. If action had continued to the exit from the table by the last Austrian unit, it looked as though the Austrians would have suffered 35-38,000 men hors de combat, the French 26-28000.

Altogether a successful game. The 'Ebb and Flow' rules were given the hardest test they could realistically be given, and were not found wanting. As has been mentioned, several players had not used the rules before, and all agreed that they were pleased with both the simplicity and accuracy. One surprising comment from a hitherto hard bitten 'dice bound' player was that he finally agreed that dice would be a time wasting irrelevance in a game like this.

As you can see from the photos, with 6mm figures the terrain and troops compliment each other, unlike many games in 15 or 25mm, where there is a distinctly cramped feel and look to large actions.

I hope that the photos and this article will at least begin to persuade the bulk of the Napoleonic wargaming fraternity that the logical future of 'refights' lies in 6mm. You will have the opportunity to see Wagram put on as a Demonstration Game at two, or possibly three of the 'big' shows later this year, and some of you will be given the chance to take part, or at least, if shy, to ask a few questions! Watch the Anschluss Publishing Ads in *Wargames Illustrated* for when, where and how to get a command at Wagram, the BIG ONE of '89'.
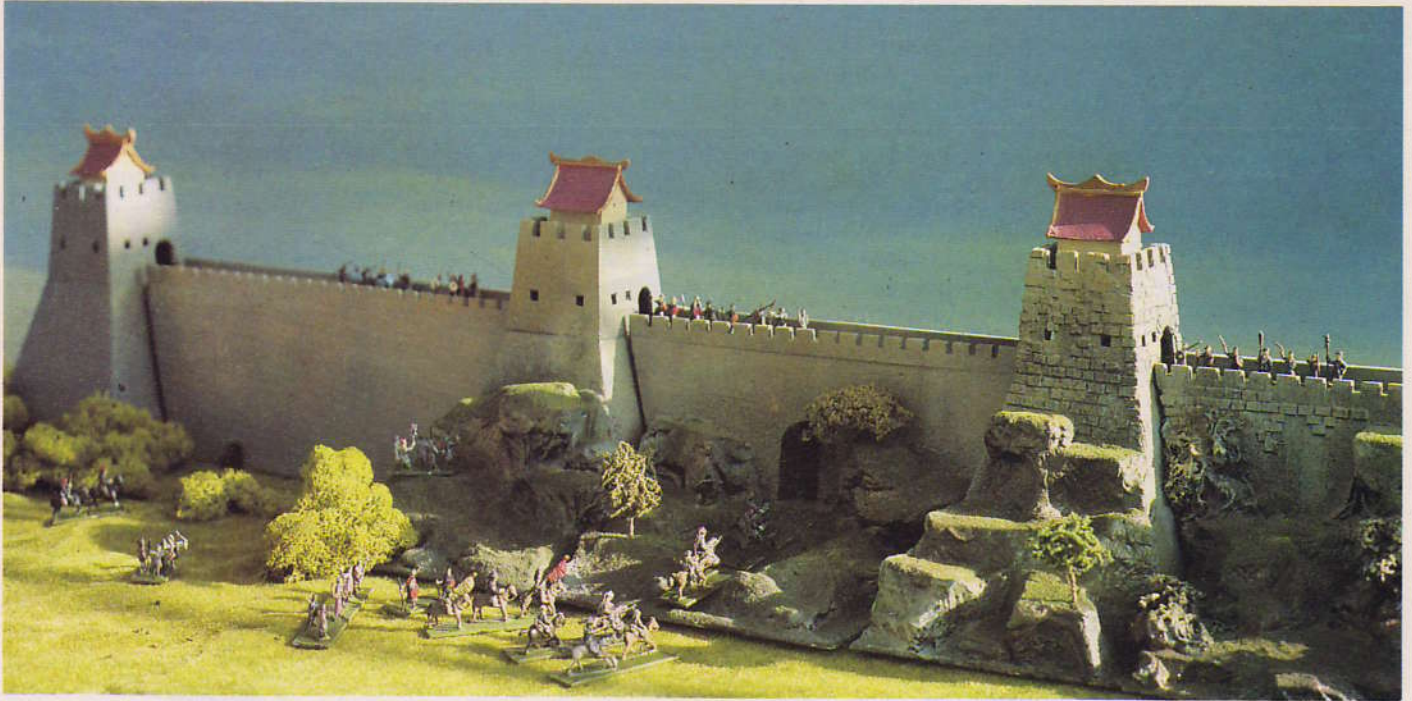
"THE GREAT STONE DRAGON"
or
"THE 10,000 LEAGUE WALL"

by Ian Weekley of Battlements

Wargames figures of ancient Chinese warriors have featured frequently in colour photographs in various issues of the hobby magazine, magnificently painted soldiers in diverse military apparel.

With the continuing search by adventurous wargamers seeking new worlds (or rather old) to conquer it was inevitable that sooner or later a customer would want a piece of the Great Wall of China (hereinafter called the Wall).

It was in the third Century BC that the founder of a new dynasty, the Emperor Shih Huang Ti, decided to build a fortified Wall in the north of China. The cold, blustery winds blew not only bleak weather down to the southern towns but also armies of barbarian raiders.

Hun (Hsiung–nu) and later Mongolian armies lusted after the rich heartlands old China, raiding the vital supply routes carrying China's lucrative trade to the West – the silks and spices destined for the harem of a Sultan or, later on, the more civilised courts of southern Europe. Such raids were becoming a nuisance.

So, as a deterrent or rather more, the Emperor Shih began to build this Wall north of Peking to the Mongolian border in the west. The exact length of the Wall has never been quite clear, although one of its names was as one of the titles of this article suggests! In terms of miles perhaps about 2,500. However, it is not a single track of walling as many people think, but has sections which run more or less parallel to each other at some considerable distance apart. (See sketch map). Chinese town walls were constantly being rebuilt down the years and it has been suggested that the Wall may be even earlier than the Third Century. Backed up by the inhospitable range of the Johel Mountains to the north, forming the border with Manchuria, the Wall was to prove in those early centuries a deterrent greater than the Russian 'Cherta' or Vauban's later European fortifications.

It was the Ming Emperor Yung Lo who died in 1425 who moved China's capital north to Peking, some forty miles south of the Wall. He believed it important that the seat of government should be nearer this vital defence of north–east China as nomadic invasion threatened.

By 1619 the Manchu tribes had been united and these now powerful descendants of barbarian nomads began to attack China. The Wall had been extended to the sea just north of Shanhaikuan and presented a formidable obstacle to the first Manchu assault under their leader Nurhachu.

Chinese artillery (with European advice) proved decisive and the Manchu forces retired discouraged. The Chinese had discovered gunpowder at a very early date, but had failed to realise its military application until Portuguese Jesuits showed them the art of constructing cannon and small arms!

A briefly successful raid on China was made in 1629 by the Manchu King T'sai–tsung when he avoided various forts and swept into China through the valleys and passes in the Jehol Mountains. However, the Chinese emerged from their border forts and cut his lines of communication. T'sai beat a hasty retreat to make fresh plans. The capable Ming general commanding the Wall, Wu San–Kuei could draw breath again – for a time.

In 1644 the Ming dynasty fell quite suddenly and unexpectedly as the result of a peasant revolt. The rebel leader, Tzu–ch'eng, collected a huge army and marched on Peking. The complacent, decadent authorities had considered such an attack unlikely in spite of several years of unrest. Treason (so often responsible for the fall of any stronghold) allowed the peasants to enter and seize the city. The Emperor commited suicide. The horrified Ming general Wu San–Kuei, still commanding the Wall, took the desperate step of inviting Manchu warriors to assist him in crushing the revolt. The Manchu leaders happily agreed and three months later the rebel army was destroyed near Yungping. Now that they were in China the Manchu not unnaturally stayed! Their forces began a steady conquest of the whole country, defeating the Ming generals one by one. The last general, Koxinga anticipated more modern history by retreating with his army to the island of Formosa which held out until 1683. Manchu garrisons were quickly established to hold down all the provinces under the "Eight Banners" of the Manchurian army. The new ruler and his court isolated themselves from their newly conquered people and, with a persistant dislike of all foreigners, ensured that China was virtually cut off from the West for many years to come.

Wargaming attacks on the Wall can therefore reflect a choice of period. First the Huns (Hsiung–nu), followed by the Mongols (Genghis Khan), and finally in the seventeenth century the successful invasion by the Manchu armies.

At 15mm scale one could develop an interesting scenario with

perhaps six or eight interval watch towers or turrets on an eight foot by four foot table top. The rocky terrain would have to be suitably 'stepped' to accomodate figures. Some parts of the Wall could be more vulnerable than others to a swift assault. The model we will describe is 15mm scale, suitable to form part of a major skirmish (the capture of prisoners perhaps?) or for the display of well painted figures when not in use for a game.

The Wall

The Wall, snaking its way over the rugged countryside, has been described as an eighth "Wonder of the World". It can be seen from the Moon! Its height varied depending on terrain conditions, twenty–five to thirty–five feet perhaps. The roadway between the parapet Walls is about fifteen feet wide. Where the Wall rises over steep ground steps carry the walker upwards. These are also steep to climb with risers as much as eighteen inches high. The stone parapets are about five feet high and crenellated on the north side – the side from which attacks were expected.

Straddling the wall at fifty or sixty yard intervals are the distinctive rectangular towers or turrets of one or two storeys. Larger ones often had a house or domestic building perched on top within the crenellated battlements. All parapet walls varied in thickness from eighteen to twenty–four inches. The ones round the top of the towers were pierced with small square loops presumably for early firearms. The parapet along the Wall had openings or arrow embrasures every three feet or so.

The tops of the parapet walls varied in style of coping as will be seen from the sketch. The Wall was built across fairly impassable terrain with an amazing disregard for the problems of construction. However, it was built with slave labour. Thousands of those who laboured and perished in the extremes of heat and cold were political prisoners. The core of the Wall is built of packed, compressed earth or clay and the bones of many of those who died while working have been found in this sub–structure.

Urgent messages were transmitted by smoke signals from tower to tower. With hundreds of miles for a message to reach 'Command HQ' the information could arrive too late to be of value. It is said that when Genghis Khan arrived at the Wall he merely laughed and lavishly bribed a principle gatekeeper to let him through with his raiders! From the late seventeenth century onwards the Manchu rulers allowed the Wall to decay and it is only in recent years that the Chinese government has set about serious restoration as a

major tourist attraction. Many sections of this great defensive 'curtain' had been systematically robbed to provide material for towns and village buildings. These are now being demolished and the stones returned for restoration work.

Having looked at the history of the 'Wall', how it came to be built to the north of Peking and how it resisted early attacks by northern 'barbarians', we will now consider its construction for wargames use. Owing to its existence over a long period of Chinese history, the wargamer is offered several periods from which to select a game of particular interest.

One of the sad things about my work is that I seldom get time to make a model for myself! When I start a feature for my own use all too often it has to be pushed aside to make way for an urgent item in the Order Book – perhaps La Haye Sainte, some Roman walling, Renaissance fortifications for casting in urethane or whatever!

This was the case with the 15mm sections of the Great Wall. Having reached a half-way mark in construction it had to be abandoned for several months; a constant reproach, looking at me from the back of the work bench. However, the dragon finally stirred and construction was able to proceed again.

Construction

To make interchangeable wall and tower sections to look exactly like the real wall was nearly impossible. The extraordinary terrain, fearfully rugged and very much up and down would be very difficult, not so much to build, but to make viable in easy assembly for games use.

I decided that all walling and towers would sit at base on the same level. Variations in groundwork could be added piece by piece by bringing terrain up the side of all walls to different heights (see sketch).

In this way some sense of varied terrain height could be indicated, adding interest to the scene and more importantly different heights on which to place attacking troops. This stepped terrain also allowed figures suitably based to stand flat – rather than to be half perched, perilously, on very sloping or ill-considered terrain (as one sees from time to time!)

Pretty scenery is fine, but it must be practical to avoid such obvious frustrations.

All walls were built with plywood and a few inches of base allowed for the build-up of 'rocks' etc. with pieces of polystyrene

Manchu offensives ➡

0   100
Miles

1629   MANCHURIA
JEHOL MOUNTAINS
1644
KOREA
PEKING
SHANHAIKUAN

THE GREAT WALL

R. Hwang Ho

NANKING
1646

CHINA MING DYNASTY

R. Yangtse   1647 – 8   Ian
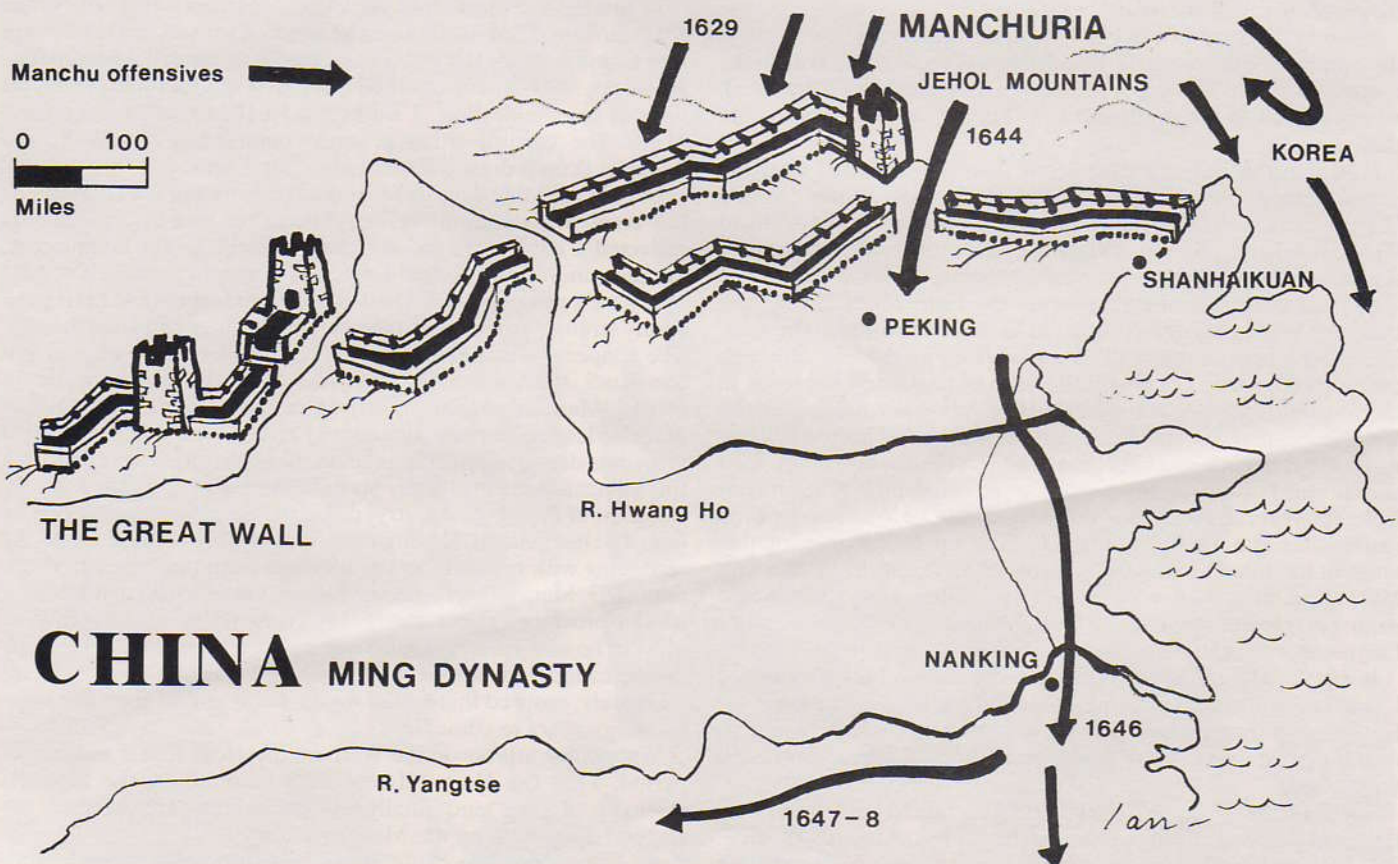
tile or packaging material covered as usual with plaster-soaked paper ('kitchen roll') to keep it all together and protect the polystyrene from the various paints.

Here we are talking about construction for a 15mm scenario – measurements will obviously be increased at larger scales. At 25mm you would need a very large table top to accommodate more than a few wall sections and towers, but you could show a useful skirmish situation at the larger size.

In former times the towers were crowned with small houses which must have given a very different profile to the whole ensemble. These were cut out of small blocks of solid wood and given curved card roofing with string added to give 'sweep' to the roof ends in Chinese style. I hope the illustrations will provide a guide to these prepared to wield saw, craft knife and PVA white woodworking adhesive.

I textured parts of the walls with paper and thin card to get the effect of the stonework of the ancient walling and washed it all over with plaster.

Painting

A good grey undercoat covered all the work and then mixed greys and browns were used (often sprayed on) for all walls and terrain.

Grass textures were applied sparingly to the flat surfaces of rocks and landscape.

A note of colour, red/brown for the roofing and white for the walls, added a sparkle to the tower top houses of the garrison An edging of gold along the roof ends added that finishing touch.

Sources

Photographs of the Wall provided by a friend, who also sent the old print of the Wall in decay.
Siege Warfare by Christopher Duffy (Routledge & Kegan Paul Ltd. 1979)
Photographs of model by Richard Spratt.
15mm Figures by Peter Laing.

Walkway
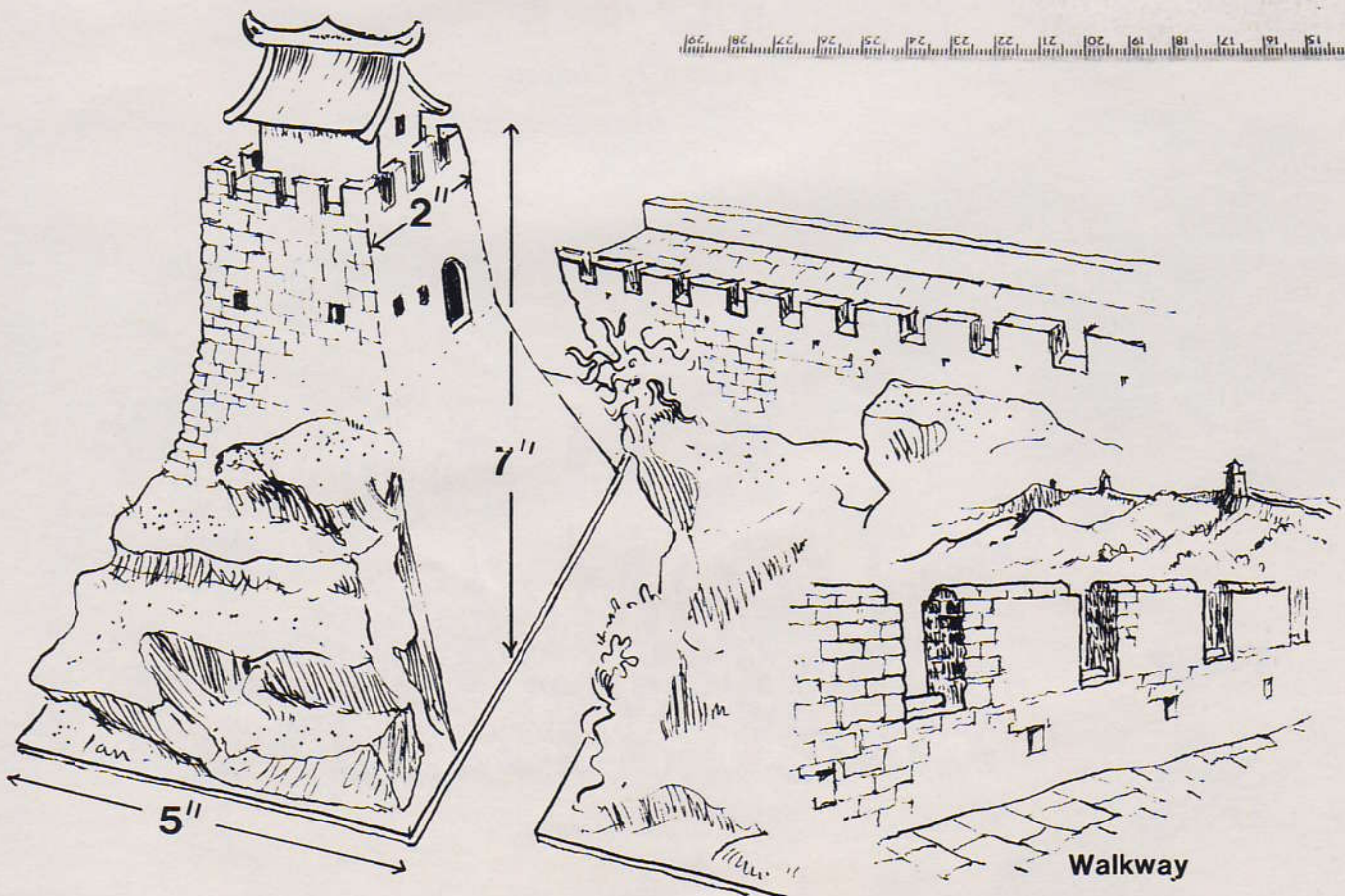
FUENTES DE ONORO 1811

by Gary T. Chilcott
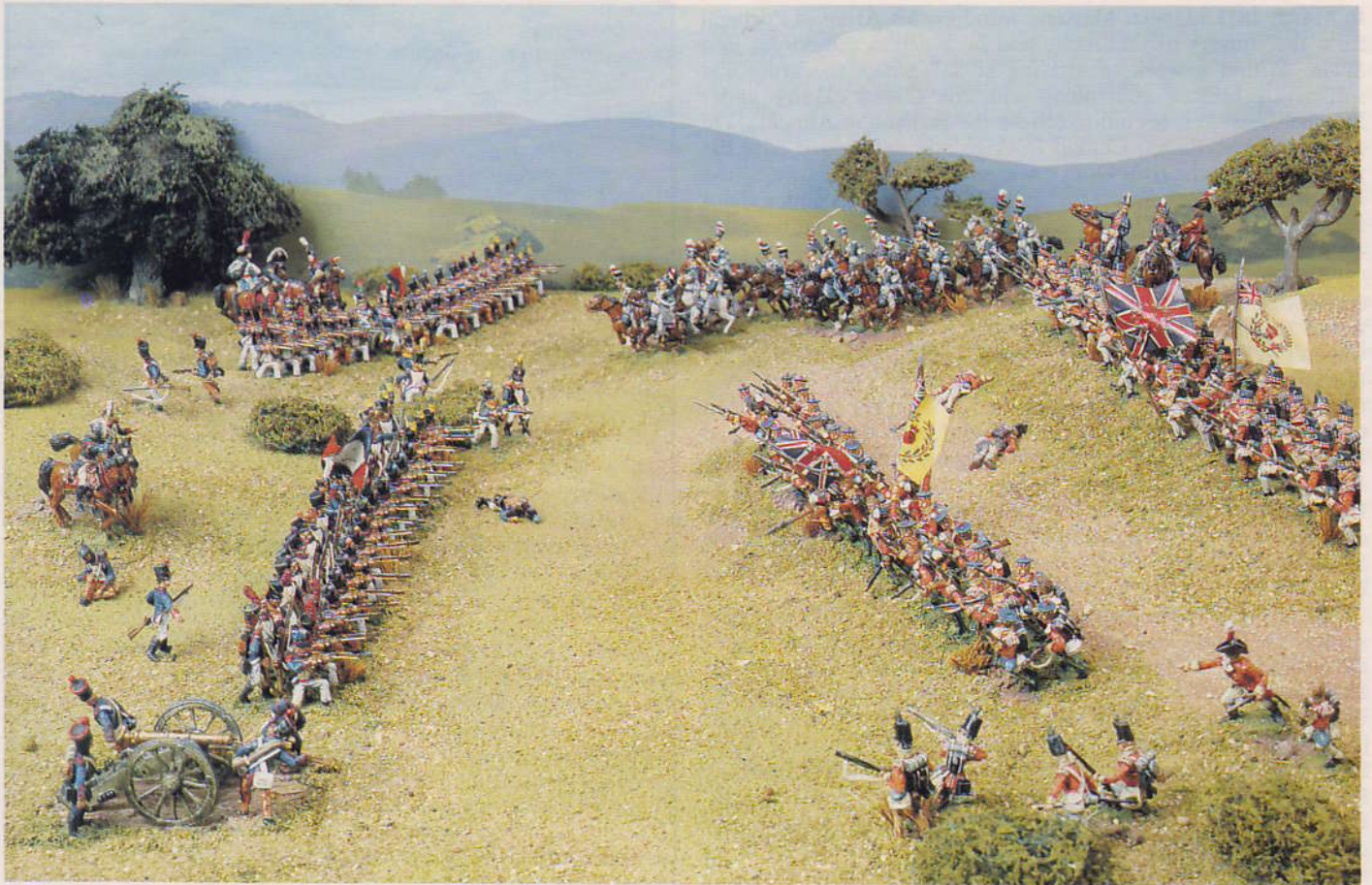
In March 1811 Marshal Masséna withdrew his Army of Portugal from the country of that name and back across the border into Spain. Within a week of arriving at Salamanca the army was sufficiently refitted and, along with the Guard cavalry under Marshal Bessières, set out to relieve the garrison of Almeida. On May 2nd Masséna left Ciudad Rodrigo and debouched onto the plain bordering the river Duas Casas with four corps d'armee – the II Corps under Reynier, VIth under Loison, VIIIth under Junot and the IXth under Drouet d'Erlon. A total of 42,200 infantry, 4,600 cavalry and 38 guns.

Faced with Masséna's new offensive, Wellington had to make a crucial decision whether to continue the siege of Almeida, which would entail a major battle against the Army of Portugal, or whether to pull back and break contact. In the end he plumped for the former and, after leaving a small force to keep watch over General Brennier's garrison blockaded in Almeida, he positioned his army to the south along the river Duas Casas. Here he deployed his 34,500 infantry, 1,864 cavalry and 48 guns along a wide frontage so as to watch over all the possible routes of French attack. However, this meant that the 5th and 6th Anglo-Portuguese divisions were placed too far north to take any active part in the forthcoming battle, though they did succeed in tying down Reynier's II Corps for most of the proceedings.

The position Wellington chose to defend was characteristically strong – the Duas Casas protected the front line along its full length; the ground sloped down to the river on both banks; all the bridges and possible crossing points were located at the easily defensible villages of Alameda, Pocho Velho and Fuentes de Onoro. Indeed, the only serious weakness to the position was the Coa river which flows in a north-south direction some eight kilometers from the front and which has banks, or rather cliffs, over 120 meters high. Consequently, the Coa would render any British retreat highly dangerous and would hamper any large scale movements in an east-west direction. Behind the Duas Casas Wellington deployed his divisions in a wide arc. The 5th Division, commanded by Major General Erskine, who was declared insane and committed suicide in 1812, was positioned on the far right around Fort Concepcion. Next to it was the 6th Division commanded by Campbell. Picton's 3rd Division was in the centre around Fuentes De Onoro along with Spencer's 1st. The left flank was entrusted to Crauford's Light Division and Houston's 7th Division, which was deployed as far to the west as Freineda, while the Poco Velho/Nava D'aver area was entrusted to Julian Sanchez's Spaniards.

During the afternoon of May 3rd Masséna arrived in front of Wellington's line across the Duas Casas but, instead of trying to outflank it, he launched forward Ferey's division of Loison's corps in a frontal attack on the bridges at Fuentes De Onoro. Once across the river Ferey's men became involved in a fierce battle in the village against the 2,260 men of the 2/84th Foot and an assembled force of light companies all under the command of Colonel Williams. The fighting became increasingly desperate in the tightly packed houses and winding street, and Junot was forced to send in an additional ten battalions. The French launched a fresh assault and this time Williams's men were forced to give way. However, Wellington was able to save the situation by committing another three regiments of foot and their enemy was thrown back over the river. The casualties had been very heavy and testify to the ferocity of the fighting – British losses totalled 259 while the French losses were much higher at 652. Thus ended the first day of the battle for Fuentes De Onoro, with the only other activity having been some minor demonstrations by Reynier in the area of Alameda.

Throughout May 4th both sides remained in the position they had held at the end of 3rd, and the only action was some desultory skirmishing between the front lines. Masséna busied himself with a thorough reconnaissance of the opponent's position, which convinced him that it was too strong to be taken frontally and that his only hope for success lay in a wide outflanking movement around Pocho Velho and then northwards. Consequently, the night of May 4/5th was spent with the French army massing on its left flank, where it managed to cross the Duas Casas and prepare for the forthcoming advance. However, Wellington was well aware of the French movements and pre-empted Masséna's scheme by re-aligning his front, so that Houston's and Crauford's divisions were moved towards Pocho Velho, along with Cotton's cavalry.

The French attack on Wellington's right promptly began at dawn
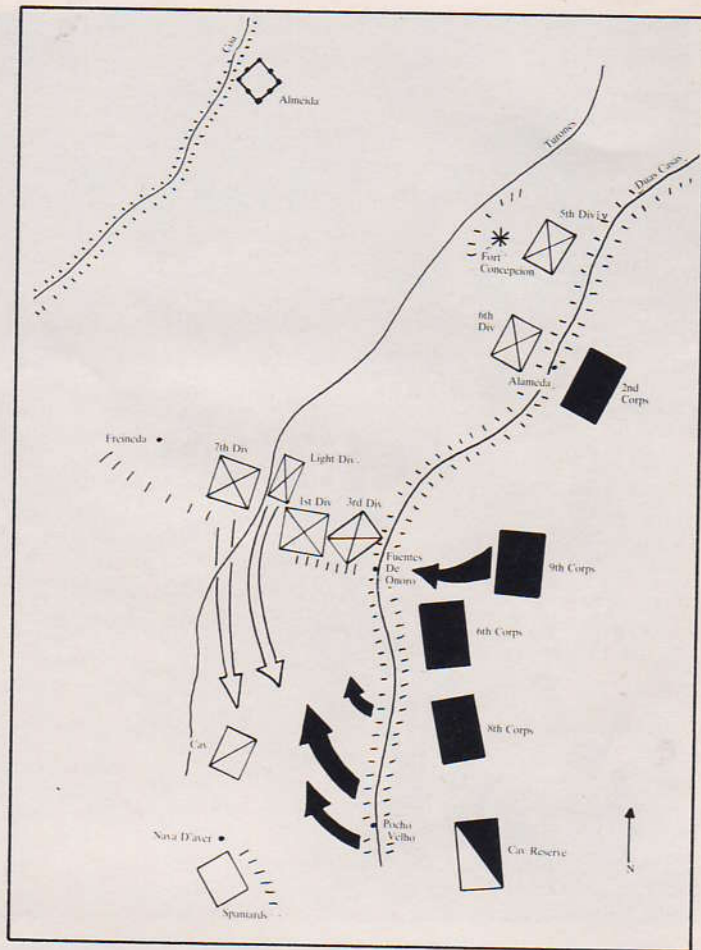
on May 5th. Moving through Pocho Velho, Junot's 8th Corps fell on Julian Sanchez's Spanish division at Nava D'aver, which was routing it, and then repulsed the British cavalry. Adjacent to Junot was the 6th Corps which also crossed the Duas Casas quite easily, and whose leading two divisions, along with Kellerman's cavalry, pushed back Houston's 7th Division. With his right flank in disorder, Wellington called forward 'Black Bob' Crauford's Light Division, which just managed to contain the French long enough to allow time for the 1st and 3rd Divisions and a Portuguese brigade to prepare a new line south of Fuentes De Onoro.

In an attempt to maintain the initiative Masséna ordered forward the reserve cavalry division of General Montbrun. Charging Crauford's green coated riflemen as they attempted to pull back, the French cavalry came very close to success and covered themselves in glory. General Fournier-Sarlovèse particularly distinguished himself at the head of the 7th, 13th and 20th regiments of chasseurs a cheval, who overthrew some 2,000 British horsemen and then went on to break through two of Crauford's infantry squares, while Montbrun's dragoons dispersed a third. Against these furious attacks Wellington's right wing came very close to giving way. Crauford conducted a model withdrawal which involved his division moving in square formation, while under almost continual cavalry attack for some two miles. What was left of Cotton's cavalry gallantly assisted the riflemen and managed to sufficiently distract the French artillery from wreaking havoc on the exposed squares. At this point one of the most celebrated incidents of the entire Peninsular War occurred. Trapped amongst the columns of Junot's corps, Lieutenant Norman Ramsay's two-piece section of horse artillery from Bull's battery had to cut its way free, straight through the masses of enemy cavalry. Sir Charles Napier describes the event as follows – "The French with one shock charge drove in all the cavalry out-guards, and cutting off Ramsay's battery, came sweeping in upon the reserves of horse and upon the Seventh Division. Men and horses then closed with confusion and tumult towards one point, a thick dust arose, and loud cries, and the sparkling of blades, and the flashing of pistols, indicated some extraordinary occurrence. Suddenly the multitude became violently agitated, an English shout pealed high and clear, the mass was rent asunder, and Norman Ramsay burst forth at the head of his

battery, his horses, breathing fire, stretched like greyhounds along the plain, the guns bounding behind them as things of no weight, and the mounted gunners followed in full career".

With the wild cavalry melee approaching a climax around Crauford's creeping squares, Massena resumed his attack on the village of Fuentes De Onoro. The French 9th Corps under d'Erlon pushed over the bridges across the Duas Casas, and plunged into the confined stone-walled lanes and close rows of white cottages. In grand Napoleonic tradition Masséna threw everything he had left against this apex of the Allied line. Four major attacks, involving 28 infantry battalions, were launched in quick succession and the British defenders were forced back. At one point the French managed to capture the village and even penetrate to a hill just behind it. However, Wellington was able to easily reinforce the defenders just enough to enable them to hold. More troops from Mackinnon's brigade were committed in a counterattack and the fighting in the village reached a new intensity. The bayonet now became the dominant weapon and the whole battle in the tiny streets degenerated into a series of hand-to-hand skirmishes – in one case 100 French grenadiers were surrounded in a cul-de-sac and promptly massacred. General Sir Charles Colville wrote shortly afterwards – "I myself was in the town on duty when the cannonade commenced, when and frequently else in the course of the day I have to be grateful for several hair breadth escapes which I will not omit to call providential . . . Our own loss is, I fear, not much under 1,800. Poor Col Cameron, son of the venerable chieftain, is I fear dead of his wounds. I left him within a pistol shot of where I am now writing . . . He was in commmand of the town in perfect spirits and confidence as to retaining his post, as far at least as his command extended, but somebody gave way on the right (it is said the King's German Legion). At all events that side was the weakest, and upon the whole it was a gallant display of British spirit and discipline."

With the control of Fuentes De Onoro in the balance and with Wellington's right flank still in grave danger, Masséna sensed that this was the time to commit his last reserve. Summoning the young General Pierre Soult to his side, the marshal instructed him to ride to where General Lepic was standing with the light cavalry of the Guard and bring them forward. When he reached General Lepic's headquarters, Soult was brusqely told that – "The Guard only recognises the Duke of Istria and cannot unsheath their swords without his order". Marshal Bessières could not be found and so the Guard cavalry would not be moved. Masséna could do nothing and the crucial moment ws thrown away. Wellington managed to calm the situation – Fuentes De Onoro was finally retaken and the French forced back across the Duas Casas; on the right the French outflanking force was brought to a halt in front of a new Allied line, which was largely in a reverse-slope position.

At 2.00 p.m. Masséna ordered all attacks to be called-off and his men fell back to their starting positions. Night fell and Masséna became more interested in saving the garrison at Almeida rather than destroying Wellington. Volunteers were called for and Tillet, a chasseur from the 6th Légère Regiment, managed to slip through the Allied lines and get a message to the besieged force ordering them to withdraw. The garrison's commander General Brennier complied and, after blowing-up the city ramparts and magazines, he safely brought his 1,300 men back to the ranks of the main army. All French operations around Fuentes De Onoro and Almeida were thus curtailed and on May 10th Masséna ordered a general retreat.

French casualties over the two days of battle numbered 2,192 to the Allied 1,545, which was surprisingly low given the intensity of fighting. The battle had ended as a minor Allied victory and Wellington had managed to hold the ground at the end of the day, although the Almeida garrison had slipped out of his grasp. Fuentes De Onoro confirms many of the characteristics typical of the Peninsular War – notably the supremacy of the British line against frontal attack, the overall inadequacy of the British cavalry versus its French counterpart despite the former's undoubted courage, and the fact that British infantry squares could indeed be broken by horsemen if unsupported. In this sense Fuentes De Onoro rightly deserves to be mentioned in the same breath as the other, more popular, battles of the Peninsular War.
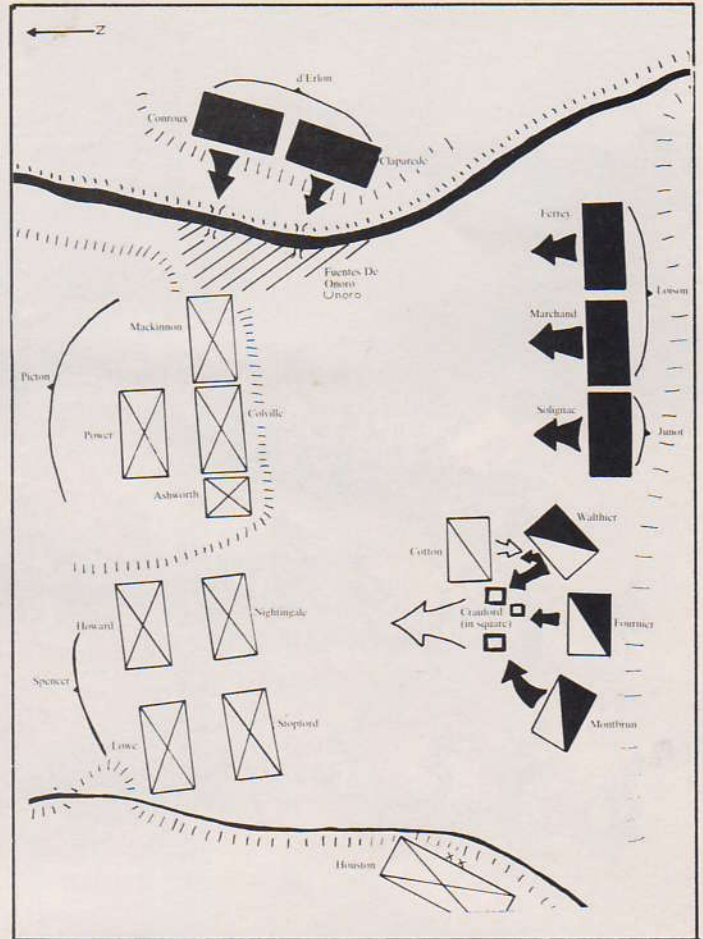
ORDER OF BATTLE   ALLIED ARMY

Lieutenant-General Arthur, Viscount Wellington

Cavalry Division
Lt-General Sir Stapleton Cotton
    1st Brigade (Maj Gen Slade)
    1st Dragoons
    14th Light Dragoons

    2nd Brigade (Lt Col von Arentschild)
    16th Light Dragoons
    1st Hussars K.G.L.

    3rd Brigade (Brig Gen de Barbacena)
    4th, 10th Portuguese Dragoons
    Artillery
    Bull's Battery R.H.A.

1st Division (Lt Gen Spencer)
    1st Brigade (Col Stopford)
    1/2nd Guards
    1/3rd Guards
    1 coy, 5/60th Foot

    2nd Brigade (Maj Gen Nightingale)
    2/24th Foot
    2/42nd Foot
    1/79th Foot
    1 coy, 5/60th Foot

    3rd Brigade (Maj Gen Howard)
    1/50th Foot
    1/71st Foot
    1/92nd Foot
    1 coy, 3/95th Rifles

4th Brigade (Maj Gen von Lowe)
1st, 2nd, 5th, 7th Line Bns, K.G.L.
2 coys, Light Bn K.G.L.
Artillery
Lawson's Brigade R.A.

3rd Division (Maj Gen Picton)
1st Brigade Col Mackinnon
74th Foot
1/88th Foot
3 coys, 5/60th Foot

2nd Brigade (Maj Gen Colville)
2/5th Foot
2/83rd Foot
2/88th Foot
94th Foot

3rd Brigade (Col Power)
2 Bns, 9th Portuguese Line
2 Bns, 21st Portuguese Line
Artillery
von Arentschild's Battery P.A.

5th Division (Maj Gen Erskine)
1st Brigade (Brig Gen Hay)
3/1st Foot
1/9th Foot
2/38th Foot
1 coy, Brunswick Oels

2nd Brigade (Maj Gen Dunlop)
1/4th Foot
2/30th Foot
3/44th Foot
1 coy, Brunswick Oels

3rd Brigade (Brig Gen Spry)
2 Bns, 3rd Portuguese Line
2 Bns, 15th Portuguese Line
8th Cacadores
Artillery
Preto's Battery P.A.

6th Division (Maj Gen Campbell)
1st Brigade (Col Hulse)
1/11th Foot
2/53rd Foot
1/61st Foot
1 coy, 5/60th Foot

2nd Brigade (Col Burne)
1/36th Foot

3rd Brigade (Col Madden)
2 Bns, 8th Portuguese Line
2 Bns, 12th Portuguese Line
Artillery
Rozziere's Battery P.A.

7th Division (Maj Gen Houston)
1st Brigade (Maj Gen Sontag)
2/51st Foot
85th Foot
Chasseurs Britanniques
8 coys, Brunswick Oels

2nd Brigade (Brig Gen Doyle)
2 Bns, 7th Portuguese Line
2 Bns, 14th Portuguese Line

2nd Cacadores
Artillery
Sequerra's Battery P.A.

Light Division (Brig Gen Crauford)
1st Brigade (Lt Col Beckwith)
1/43rd Foot
4 coys, 1/95th Rifles
1 coy, 2/95th Rifles
3rd Cacadores

2nd Brigade (Col Drummond)
1/52nd Foot
2/52nd Foot
4 coys, 1/95th Rifles
1st Cacadores
Artillery
Ross' Battery R.H.A.

Independent Portuguese Brigade (Col Ashworth)
2 Bns, 5th Portuguese Line
2 Bns, 18th Portuguese Line
6th Cacadores

ORDER OF BATTLE

FRENCH ARMY OF PORTUGAL

Marshal Andre Massena, Prince d'Essling, Duc de Rivoli

2nd Corps
General de Division, Reynier
1st Division (General de Division, Merle)
Brigade Sarrut
36th Regiment de Ligne
2nd Regiment de Legere
4th Regiment de Legere

2nd Division (General de Division, Bierre)
Brigade Godard
70th Regiment de Ligne
17th Regiment de Legere

Brigade Arraud
47th Regiment de Ligne
31st Regiment de Legere

Cavalry Brigade (General de Brigade, Soult)
1st Hussar Regiment
22nd Chasseur a Cheval Regiment
8th Dragoon Regiment

6th Corps
General de Division, Loison
1st Division (General de Division, Comte Marchand)
Brigade Maucune
60th Regiment de Ligne
6th Regiment de Legere

Brigade Chemineau
39th Regiment de Ligne
76th Regiment de Ligne

2nd Division (General de Division, Mermet)
Brigade Menard
27th Regiment de Ligne
25th Regiment de Legere

Brigade Taupin
50th Regiment de Ligne
59th Regiment de Ligne

The photos with this article are all from the superb Peninsular War collection of Bill Gaskin. We've featured Bill's figures before, but there's lots of new stuff here – so no excuse is needed for featuring it again!

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3rd Division (General de Division, Ferrey)
 Brigade ?
 26th Regiment de Ligne
 Legion du Midi
 Legion Hanoverienne

 Brigade ?
 66th Regiment de Ligne
 82nd Regiment de Ligne

Cavalry Brigade (General de Brigade, Lamotte)
 3rd Hussar Regiment
 15th Chasseur a Cheval Regiment

8th Corps
General de Division, Junot, Duc d'Abrantes
 2nd Division (General de Division, Solignac)
 Brigade ?
 15th Regiment de Ligne
 86th Regiment de Ligne

 Brigade ?
 65th Regiment de Ligne
 Regiment Irlandais

9th Corps
General de Division, Drouet, Comte d'Erlon
 1st Division (General de Division, Claparede)
 Brigade ?
 1 Bn, 54th Regiment de Ligne
 1 Bn, 21st Regiment de Legere
 1 Bn, 28th Regiment de Legere

 Brigade ?
 1 Bn, 40th Regiment de Ligne
 1 Bn, 63rd Regiment de Ligne
 1 Bn, 88th Regiment de Ligne

 Brigade ?
 1 Bn, 64th Regiment de Ligne
 1 Bn, 100th Regiment de Ligne
 1 Bn, 103rd Regiment de Ligne

2nd Division (General de Division, Conroux)
 Brigade ?
 1 Bn, 9th Regiment de Legere
 1 Bn, 16th Regiment de Legere
 1 Bn, 27th Regiment de Legere

 Brigade ?
 1 Bn, 8th Regiment de Ligne
 1 Bn, 24th Regiment de Ligne
 1 Bn, 45th Regiment de Ligne

 Brigade ?
 1 Bn, 94th Regiment de Ligne
 1 Bn, 95th Regiment de Ligne
 1 Bn, 96th Regiment de Ligne

Cavalry Brigade (General de Brigade, Fournier)
 7th, 13th, 20th Chasseur a Cheval Regiments

Reserve Cavalry Division (General de Division, Pierre, Comte de Montbrun)
 Brigade Cavrois
 3rd, 10th, 15th Dragoon Regiments

 Brigade d'Ornano
 6th, 11th, 25th Dragoon Regiments

ARMY OF THE NORTH
Marshal Jean Baptiste Bessieres, Duc d'Istria

Imperial Guard Cavalry Brigade (General de Brigade, Lepic)
 1st Lancers of the Guard
 Chasseurs a Cheval of the Guard
 Mamelukes of the Guard
 Grenadiers a Cheval of the Guard

Light Cavalry Brigade (General de Brigade, Walthier)
 5th Hussar Regiment
 11th, 12th, 24th Chasseur a Cheval Regiments

"WHERE WAS THE NAVY?"
Asked by the Scarborough coroner after the inquest into the victims of the German raid, December 1914

by Ian Drury

At breakfast time on December 16, 1914 the towns of Scarborough, Hartlepool and Whitby were bombarded by German warships. This brutal attack violated international convention and deeply shocked British public opinion, which had been led to believe that the Royal Navy would make short work of the Kaiser's fleet. Instead of a second Trafalgar, it appeared that the Huns could treat England in the same ugly manner they treated Belgium, and as the citizens of these unfortunate cities buried their dead and contemplated their shattered houses, the press howled for vengeance and bitter recrimination set in at the Admiralty.

The High Seas Fleet made a series of such raids during the war, the objective being to lure an isolated squadron of British battleships into action with the whole German battleship force. To the Admiralty, the fate of the seaside towns was lamentable, but far worse was the fact that Britain's newest and best squadron of dreadnought battleships had come within a hair's breadth of an engagement with 22 enemy capital ships.

Because of the limited duration and restricted area of operations, these raids make an excellent subject for a naval wargame which does not stop at the edge of the blue felt. It is easily possible to simulate the entire operation on a map and transfer each tactical encounter to the table or floor and fight it out with models; once rival squadrons have disengaged, action returns to the map and the operation continues. This is far more satisfying than an action restricted to the tabletop and even with a couple of tactical battles lasting several hours each, the game will be finished in an afternoon. I use a modified version of General Quarters rules part 2, the only significant alteration being to the torpedo rules which I felt were a little too lethal. These rules use a 15 mile wide hexgrid to regulate movement on the map, which in turn requires you to come up with a map of the North Sea. I made mine by enlarging a map on a photocopier to the right size and tracing it on to a hexgrid, similarly modified by photocopying to make the map accompanying this article.

To wargame these naval actions it is not necessary to spend vast quantities of time and money modelling the entire Grand Fleet and High Seas Fleet. Like the Royal Navy at the time, I keenly anticipate wargaming a dreadnought version of Trafalgar, but unlike Jellicoe's captains I know that it is not just around the corner. I need more ships and a bigger house first! Most of the North Sea encounters involved the battlecruisers and supporting light forces, with the battleships trailing along behind. For obvious reasons I do not intend to recount the full story of the naval operations in the North Sea, but rather, to examine the various raids which took place, often without generating a full engagement. As will be seen, it was often a matter of blind chance that the rival forces met or missed each other and by re-fighting such actions the wargamer can gain a far better appreciation of the frustrations and difficulties that the admirals faced at the time.

The Dinegan's day raid in December 1914 was anticipated by 'Jackie' Fisher who was painfully conscious of the number of capital ships abroad in the Mediterranean and South Atlantic. The then German commander, Admiral von Ingenohl planned to attack Scarborough and Hartlepool with the battlecruisers while the cruiser *Kolberg* laid mines off Filey. In this he followed the formula established in November when four battlecruisers had appeared off the British coast for a brief bombardment of Yarmouth while mines were dropped elsewhere.

In direct disobedience of the fettering restrictions imposed by the Kaiser, Ingenohl brought the High Seas Fleet half way across the North Sea while the 1st and 2nd Scouting Group and two destroyer flotillas made for the Yorkshire coast. If all went according to plan, the British battlecruisers would put to sea the moment Scarborough was shelled, steam south at full speed and straight through the minefield.

The British Admiralty had a good idea of German intentions. Thanks to Room 40, they knew the operation would involve the 1st Scouting Group (*Seydlitz*, *Moltke*, *Von der Tann*, *Derfflinger*, and *Blücher*), but were unaware of Ingenohl's bold decision to sortie with the whole fleet. Accordingly, the Admiralty refused to allow Jellicoe to employ the full battleship strength of the Grand Fleet, instead, a single squadron of dreadnoughts was despatched to provide support for Beatty's battlecruisers. The British plan was for the following forces to rendezvous off the SE corner of Dogger Bank:

1) Beatty's four battlecruisers (*Lion*, *Princess Royal*, *Queen Mary*, *Tiger*)
2) Pakenham's 3rd Cruiser Squadron (3 armoured cruisers)
3) Goodenough's 1st Light Cruiser Squadron
4) Vice-Admiral Warrender's 2nd Battle Squadron (6 dreadnoughts)
5) 4th Destroyer Flotilla

To cover against a southward turn by the Germans, Commodore Tyrwhitt's Harwich force was to lie off Yarmouth and await further instructions, while Keyes and 8 submarines lurked off Terschelling.

Like most military operations the final result was not envisaged by either side. At 5.15am, Warrender's destroyer screen ran into the advance guard of the High Seas Fleet and for the next two hours there followed a confused action in the pre-dawn murk. At 5.30 the six British battleships were 4 miles away from the German battlecruisers and 10 miles from the cruisers of Ingenohl's screen. Behind the German cruisers followed serried ranks of battleships: 14 dreadnoughts and 8 pre-dreadnoughts, their escorts were a pair of armoured cruisers, 7 light cruisers and 54 torpedo boats. This was exactly the opportunity the Germans had dreamed of, but Ingenohl steered SE in the belief he had encountered the whole Grand Fleet. For a while the hopelessly unequal forces steamed parallel until at 6.20 the High Seas Fleet put on steam and headed for home leaving the battlecruisers to their own devices. Completely oblivious, Warrender headed for the rendezvous!

Beatty meanwhile was pursuing the whole High Seas Fleet after hearing a destroyer signal by wireless that it was in contact with the enemy armoured cruiser *Roon*. Shortly before 9.00am he gave up the chase after the light cruiser *Patrol* reported two German battlecruisers, but neglected to give their position, and *Lion* picked up Scarborough broadcasting the news that it was being shelled. The British battlecruisers reversed course, followed by Warrender and by 9.30 the British forces were in two groups steering for the East coast. The weather was fine, the sea smooth and the Germans were in a known position within easy reach. This was just the opportunity the British had dreamed of.

By 11.00am the four German battlecruisers and four light cruisers were 100 miles away from an overwhelmingly superior force of British capital ships and the rival forces were steering straight towards each other. But the weather proved capricious and began to deteriorate with alarming speed, visibility fell to no more than a couple of miles and the lookouts found themselves peering into driving rain. Yet, at 11.25, HMS *Southampton*, flying Goodenough's Broad Pennant, spotted the enemy cruisers and promptly engaged, followed by HMS *Birmingham*. *Nottingham* and *Falmouth* steered south to support. Unfortunately, Beatty signalled by searchlight from *Lion*:

"Light cruisers – resume your position for lookout. Take station 5 miles ahead." All the British cruisers broke off and resumed station, allowing the Germans to escape. Beatty was livid when he

learned what had happened, but by then it was too late; passing Warrender's dreadnoughts off Dogger, the enemy had a clear run home.

The inability of British squadrons to communicate intelligently was to be a recurring feature of the First World War at sea, blind obedience to senior officer's signals and a singular lack of initiative were the tragic legacy of the Victorian navy. The Royal Navy had been trained with the assumption that the commander would be as aware of the tactical situation as a wargamer looking down at his model ships on a table. But in the North Sea visibility was often very poor, making the Admiral dependent on his scouting forces. The methods of signalling were fraught with weakness: flags were difficult to read at the long ranges involved and frequently obscured by funnel smoke; wireless sets were unreliable. Most Royal Navy captains expected to receive all their tactical direction from on high and confidently assumed that their commanders had a firm grasp of the situation, so they failed time and time again to provide vital information to the Flagship. I have the dubious pleasure to report that wargamers of my acquaintance emulate their Royal Navy forebears in fine style and without any help from rules mechanisms. Just follow the communications rules in *General Quarters* and watch the fun.

Submarines were used by both sides and in much the same fashion: lurking in the expected path of the enemy, often off a port. British commanders were always alert to the possibility of a submarine ambush which never actually took place, largely because by the time the Germans had enough U-Boats to infest the North Sea they were despatching them into the Atlantic to attack merchant shipping. Nevertheless, fears of submarine attack exerted a profound influence on British tactics. Beatty's famous turn away at Dogger Bank and the 13 claimed periscope sightings at Jutland (where no submarines were present) both testify to the British nervousness of a weapon of unknown potential. For this reason, when umpiring, I like to provide the odd false alarm. The Royal Navy had some particularly enterprising submarine captains of its own, so there is no reason to exclude the Germans from this. Indeed, as the High Seas Fleet returned from the December 16 raid, E-11 under the intrepid Naismith, fired its starboard torpedo at the dreadnought *Posen* from 400 yards, the torpedo was bang on course but ran under the target because the submarine rolled as she fired.

The story of Dogger Bank is too well known to need re-telling, but some points deserve emphasis. The priceless intelligence of Room 40 allowed the British to ambush Hipper's battlecruisers with a far superior squadron, but the combination of tactical arthritis, submarine paranoia and a succession of bungled signals threw away the chance. HMS *Tiger* was a magnificent warship: her clean lines made her an impressive sight as she surged through the choppy water off Dogger and her powerful 13.5 – armament was centrally managed by the battlecruiser squadron's only directly fire control system. But at Dogger she failed to score a single hit, Fisher searched for culprits, branded her gunnery officer "villainously bad" and replaced him, but that did not solve the problem. *Tiger*, commissioned on 3rd October, spent 9 days practice shooting in Bantry Bay then joined the Grand Fleet on 6th November. There followed two bleak months swinging at anchor in Scapa with little opportunity for firing practice and her crew, by January, contained a high proportion of recovered deserters. It is always worth remembering that warships, no matter how imposing their appearance, are merely machines operated by men.

German capital ships did not venture into the North Sea for a year and a day after the debacle at Dogger Bank. When they did return their turrets, magazines and ammunition hoists were protected by anti-flash doors to prevent a recurrence of the appalling fire aboard *Seydlitz* which nearly caused the loss of Hipper's flagship. It is a moot point whether such protection would have been added if the fire had not happened or if it had led to the detonation of the main magazine and the deaths of all the witnesses. Ingenohl had been sacked after Dogger and his mortally sick replacement, Admiral Pohl was succeeded by Admiral von Scheer in early 1916. Scheer soon put to sea with the whole fleet, cruising off the Texel on 5th/6th March in the hope of snapping up any British light forces pursuing zeppelins back from their raids on England.

Before Scheer embarked on a new series of raids, the British struck with a raid of their own on 25th March. The Harwich force escorted the seaplane carrier *Vindex* to a position 40 miles NW of the airship station at Hoyer. Beatty provided close cover 45 miles west of Horn's Reef and the Grand Fleet steamed into the centre of the North Sea. As it turned out, German reaction was muted, but this operation was to be repeated and provides an interesting alternative to the German attacks on the UK. Again, it involves sensibly sized forces in a limited action.

The Germans reappeared off the British coast on 25 April in an attack timed to coincide with the Irish rebellion. Lowestoft and Yarmouth were attacked by the battlecruisers, minus *Seydlitz* which hit a mine and had to return. The indomitable Tyrwhitt led the Harwich force with customary panache and actually pursued the Germans back across the North Sea, Scheer, like Ingenohl before him, assumed the Grand Fleet to be behind these aggressive scouts and retired eastwards at speed.

AJP Taylor and others have claimed that the High Seas Fleet never showed itself in the North Sea again after Jutland, but in fact three more raids were attempted, using the usual formula. On 19 August 1916 the two operational battlecruisers (*Moltke* and *Von der Tann*) were despatched to raid Sunderland, accompanied by 3 dreadnoughts including the new *Bayern*. The High Seas Fleet sortied to cover them. Two months later, Scheer made another excursion as far as Dogger, but had to rely on zeppelins to scout ahead as the U-Boats had all been sent into the Atlantic. On both occasions, German caution prevented any action developing. The last raid in April 1918 was against a new target, the convoys between Britain and Norway, but *Moltke* broke radio silence after losing all power and the operation was aborted.

As the war progressed the chance of a German victory over an isolated British squadron gradually declined. The *Queen Elizabeth* class super-dreadnoughts had the speed to support the British battlecruisers and gave the van of the High Seas Fleet a good run for its money at Jutland. British numerical superiority in dreadnoughts became unbeatable and both sides remained very cautious where and how they committed their battleships. Nevertheless, the majority of the above operations can be wargamed without having to amass both battlefleets in their entirety. I have modelled the British and German battlecruiser squadrons plus a number of light cruiser squadrons and 6 *King Edward VII* class pre-dreadnoughts which were deployed for a brief period in support of Beatty. Pre-dreadnought fans could also introduce the 5th Battle Squadron (the two *Lord Nelsons* plus 6 *Formidables*) which came to Rosyth from Portland in early 1915 while the dreadnought ratio was at its most unfavourable. The full battlefleets have been to sea during several games, but I have invariably fettered their commanders with a number of restrictions. They have never yet seen an enemy warship. If they do come into play there is still no need to model them; all my squadrons can simply put on steam and escape, any vessels unable to do so owing to battle damage are obviously doomed. So, for the time being, battlecruisers can plough their majestic way across my living room floor and the full fleet encounter remains a sort of naval gamer's 'paradise postponed'.

A Note on sources

Ignore most books called something liek "Great Sea Battles of World War I" unless you want another potboiler on Dogger and Jutland. Order the first couple of volumes of Julian Corbett's *Naval Operations* from your local library, it will take time but it's worth it; likewise Marder's *Dreadnought to Scapa Flow*. Other than that, examine the bottom shelf in every second hand book shop you can find in pursuit of first hand material. It is often not only more informative than the bulk of secondary sources but a damn sight better written!

SHETLAND IS.

ORKNEY IS.

Scapa Flow

Skagerrak

Cromarty

JUTLAND
BANK

Rosyth

Horn
Reefs

Newcastle
Sunderland
Hartlepool
Whitby
Scarborough

Dogger
Bank

Amrún Bank

Flamborough Head

Hull

Heligoland

Cuxhaven

Wilhelmshaven

Jade Bay

Yarmouth
Lowestoft

Harwich

LONDON
Chatham

Zeebrugge

Dover

Portland

Devonport
Plymouth
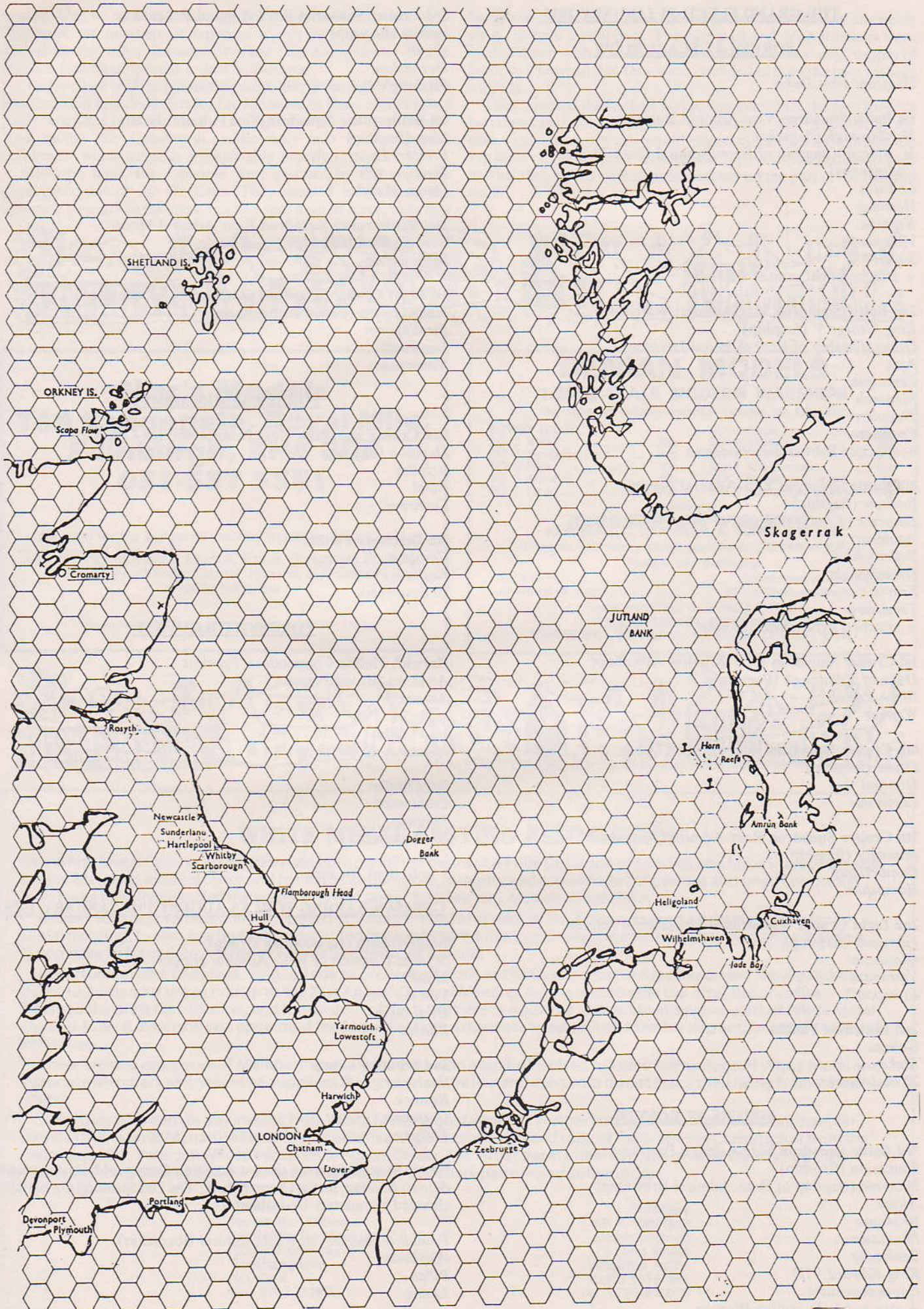
THE GRAND FLEET, 24 JANUARY 1915

FORCES AT SCAPA FLOW

Flagship: *Iron Duke*

1st Battle Squadron Vice-Admiral Burney
Marlborough (flagship)
St. Vincent (flagship of Rear-Admiral Evan-Thomas)
Collingwood
Collosus
Hercules
Neptune
Vanguard
Superb*
+ attached light cruiser *Bellona*

2nd Battle Squadron Vice-Admiral Warrender
King George V (flagship)
Orion (flagship of Rear-Admiral Leveson)
Ajax
Centurion
Monarch
Thunderer
Conqueror*
+ attached light cruiser *Boadicea*

4th Battle Squadron Vice-Admiral Gamble
Benbow (flagship)
Emperor of India (flagship of Rear-Admiral Duff)
Agincourt
Bellerophon
Dreadnought
Erin
Temeraire
+ attached light cruiser *Blonde*

1st Cruiser Squadron Rear-Admiral Arbuthnot
Duke of Edinburgh (flagship)
Black Prince
Warrior

6th Cruiser Squadron Rear-Admiral Grant
Drake (flagship)
Donegal
Leviathan

7th Cruiser Squadron Rear-Admiral Waymouth
Minotaur (flagship)
Cumberland
Hampshire

2nd Light Cruiser Squadron Rear-Admiral Napier
Falmouth (flagship)
Gloucester
Yarmouth
Liverpool*

2nd Destroyer Flotilla
Galatea
Blake
20 destroyers

FORCES AT ROSYTH

3rd Battle Squadron Vice-Admiral Bradford
Dominion (flagship)
Hibernia (flagship of Rear Admiral Browning)
Africa
Britannia
Hindustan
Zealandia
King Edward VII*
Commonwealth*
+ attached light cruiser *Blanche*

3rd Cruiser Squadron Rear Admiral Pakenham
Antrim (flagship)
Argyll
Devonshire
Roxburgh*

1st Battlecruiser Squadron Vice Admiral Beatty
Lion (flagship)
Princess Royal
Tiger
Queen Mary*

2nd Battlecruiser Squadron Rear Admiral Moore
New Zealand (flagship)
Indomitable

1st Light Cruiser Squadron Commodore Goodenough
Southampton (Broad Pennant)
Birmingham
Lowestoft
Nottingham

FORCES AT CROMARTY

2nd Cruiser Squadron Rear Admiral Gough-Calthorpe
Shannon (flagship)
Achilles
Natal
Cochrane*

4th Destroyer Flotilla
Caroline
Faulkener
20 destroyers

FORCES AT HARWICH

Harwich Flotilla Commodore Tyrwhitt
Arethusa (Broad Pennant)
Aurora

1st Flotilla:
Meteor & 20 destroyers

3rd Flotilla:
Undaunted
Miranda
20 destroyers

* = In dock for repair

GERMAN RAIDING FORCES AUGUST 1914-JANUARY 1915

Battlecruisers (1st Scouting Group)
Seydlitz (flagship of Rear Admiral Hipper)
Moltke
Von der Tann
Derfflinger
Blucher

2nd Scouting Group
Stralsund
Rostock
Grandenz
Kolberg

For 1916 period games the 1st Scouting Group adds *Lutzow* and deletes *Blucher*, lost at Dogger Bank. The 2nd Scouting Group had changed completely by Jutland to:

Frankfurt (flagship of Rear-Admiral Boedicker)
Wiesbaden
Pillau
Elbing

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BACTRIAN GREEK

15/RC03	Archoain Lt Cav	
15/RC06	Cavalry	HC
15/CA1	Cretan Archer	
15/SE05	Hillmen	
15/IF02	Indian Archers	
15/IC02	Indian Cavalry	
15/SE26	Phalanx	MI
15/SE04	Pisidian Colonist	
15/SE21	Bodyguard	HC
15/IE16	Indian Ally Gen Elephant	
15/IE10	Indian Elephants	
15/CT01	Indian 4 Horse Chariot	

THRACIAN

15/RC01	Light Horse	LC
15/RC05	Greek Ally General	
15/RC06	Sub General	
15/SE04	Greek Peltast	LMI
15/SE06	Javelinmen	LI
15/SE08	Greek Hoplite	LI
15/SE13	Slingers	LI
15/SE14	Archers	LI
15/SE15	Peltast	LMI

Later Hoplite Greek

15/SC03	Athenian Horse Archer	
15/SC04	C in C	
15/CA1	Cretan Archer	
15/SE17	Greek Ally General	
15/RC05	Greek Cavalry	
15/SE08	Hoplites	MI
15/SE05	Javelinmen	LI
15/SE04	Peltast	LMI
15/NS1	Slingers	LI
15/SE17	Sparten Sub General	
15/GL05	Syracusan Gauls	
15/SI1	Syracusan Spaniards	
15/SE15	Thracians	LMI

Later Hoplite Greek Army 15.48

AMERICAN CIVIL WAR

AF1	Iron Brigade First Uniform Firing
AF2	Private Shell Jacket Kepi Shouldering Arms
AF3	Private Shell Jacket Slouch Hat Advancing
AF4	Frock Coat Slouch Hat Advancing
AF5	Mounted Officer Full Dress
AF6	Officer on Foot Service Dress
AF7	Standard Bearer
AF8	Musician Drummer
AF9	Garibaldi Guard
AF10	Zouave wearing Kepi Foot
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"IN THE GRAND MANNER"

by Peter Gilder

The title to this occasional series was coined many years ago in a now defunct magazine, later it was to put to a set of Napoleonic rules and it seems to sum up my main interest in this hobby of ours. It was mentioned first in relation to the games we played and then of course carried on through the Holiday Centre, large multiplayer games that not only gave the satisfaction of taking part but also recreated the inherent problems of command. This grand scheme was carried through to include terrain, buildings, figures and everything that goes to make up a large game.

Over the years I have been asked many questions on all these aspects of wargaming that I have mentioned, plus many others. It is the intention of this series to answer, if I can, some of these questions that may be of wider interest. You can help here, if you have anything you particularly want me to explain, let the editor know and he will pass it on to me. That then is the basic concept of this series of articles. The first one I have chosen is a particular pet of mine and although not strictly in the terrain or modelling mould it does have at its root the aesthetics of the game, and to me that means a lot. It also fits in with any rules you play but I feel improves both the game and its looks.

Artillery in Horse and Musket wargames: all rules appertaining to this period have, within their framework, a section which lays out the mechanics for the artillery. Some of them make this the dominant arm, others less so. Whatever the rules, they demand that each gun model should be pulled by its respective limber and horse team. In my early days all my guns were pulled by a two horse team plus a limber. When the battery was in motion the deployed gun team was taken off the table and the guns placed behind the limbers, and off the battery would trundle. Nothing at all wrong with this except it didn't look right. What can we do to make amends? Let's look at a typical American Civil War Union battery of six guns, in our rules, and most others for that matter, represented by three gun models. When a battery is deployed there is no problem, the frontage and number of crew members are defined within the rules you are using. What then do we do when the battery is on the move that is different to before? What we do is represent the battery moving by one gun complete with its limber and team and the crew walking or riding alongside or behind. This gun team is split into three parts, the first section having four horses, the second section having two horses and the limber and the third section has the crew walking behind. In the third section in the photograph I have put marching infantrymen on the base, but overall the effect looks a little better than the original method of three pairs of horses, three limbers and three guns. On the last base the gun is left loose. You could, if you wish, replace this with a caisson, but more of that later. You will note that the ends of the first and last base are reduced to allow you to move it round corners etc. So now we have our battery in its deployed mode and on the move. It doesn't end there. Two points: the first, in battle artillery very rarely ran out of ammunition. The battery had first and second lines of caissons for each gun, so they had few supply problems on the battlefield. The telling difference is, they were commanded by artillery officers and not wargamers. If any real battery fired as ours do, in our games, it would have run out of ammunition before the battle was half done. Our player will fire at that solitary skirmisher on the hill on the other side of the table, the only target in range, even if the chance of a hit is so remote that winning a million on the pools offers better odds. This is because most rules have no ammunition supply factor, even at the Holiday Centre we very rarely used a supply system, although we have one. This was to enable newcomers to the rules to establish an understanding of the basics before complicating it with more paperwork.

Our system is simple, each time a battery is fired the round is marked off, two rounds if the battery is capable and does fire twice. We put an artificially low firing capability for the gun, it then means the player will think twice before firing, and only fire, or we hope he will, at a target that in real life would also have been rated as worth attention. It's surprising how different a game can be when such a simple rule as this is brought in.

The second point, to supply the gun whilst it's in action, the caissons must be within a reasonable distance for the man whose job was to bring the ammunition from them to do so without having to walk or run too far. Roughly we have the guns and limbers in the front line, 50 yards behind them the first line of caissons, 50 yards behind them the second line and anything from 50 to 100 yards behind them the remaining caissons, battery wagons, field forges, spare wheel carriages and all the other paraphernalia of the artillery battery, with its attendant horse teams. With a horse battery it is even worse: horses for all the crews and attendants must also go in this space. How does this effect the wargamer? A short answer, it doesn't. To take an extreme case, although one I have seen many times over the years. You have a road over a long low hill, maybe flanked on one side by a village. This narrow road has walls each side, lo and behold the answer to a wargamer's dream, his ideal artillery position, he places his guns in the road, a lovely field of fire and the benefit of hard cover even from the rear. Now let's look at this situation in reality. The battery commander gallops through the village, down this narrow country road flanked by stone walls, behind him he has the battery, stretching up to 300 to 400 yards along the road. I don't think I need pursue this any further. You tell me how he got his guns in that position in the heat of a battle. Even if he does, where does he put his caissons and limbers? Behind the rear wall? You can of course say knock down the rear wall to give access. This would be feasible if the army had been on that ground some time, they could dismantle the rear wall. But we haven't been on this ground any time. Quite a good position for infantry. but they don't have the same problem as the guns. How do we stop this? Well we have a very simple system. When the battery is deployed we have another base equal in width to the battery itself and 50 to 60 mms. deep. This, for want of a better word, we call the supply base. To be able to fire during the game this base must be in contact with the rear bases of the deployed guns. Now for the mechanics of the game, this base may be a piece of card, hardboard or anything you wish, just put behind the battery. You can write on this the battery designation. If you are going to use an artillery supply system I have mentioned you can have the base made from ½ inch chipboard and drill small holes in it to hold coloured map pins to represent the rounds: each time it fires take one out. All these are functional, but not very pretty. I use the actual limber set we already have. The three parts are on a base 90mm long by 50mm wide, so in the American Civil War case of three guns, each deployed on a 60mm front, the battery width is 180mm, so if we put two of our three components behind the guns we fulfil the requirements of the supply base. You will find on Napoleonic 4 gun model batteries and ACW 2 gun model batteries (most of the Confederates) the bases horse team do not cover this exactly, you can ingore this or you can make a supply base to fit as you wish, bearing in mind the idea is to create a battery position and not put the guns themselves in inaccessible places.

This then completes this little artillery piece, our next subject will be basing and texturing of figures and terrain. If you have any particular wants let's have them, I'm sure the editor will pass them on.
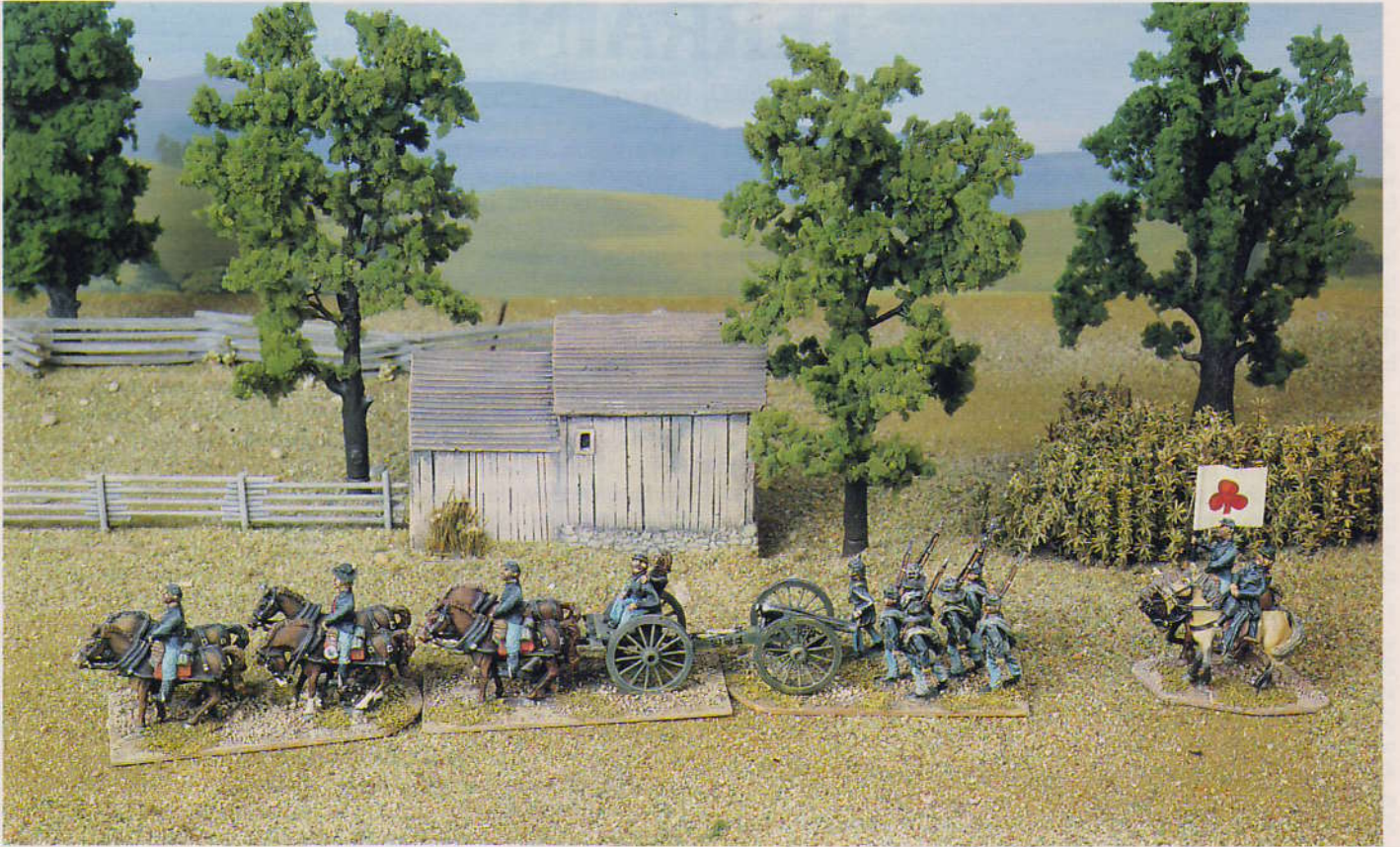
Two views of an A.C.W. battery (– Connoisseur Figures, of course!) deployed as described by Peter in the accompanying article. Trees are German imports from a well-known model railway manufacturer.
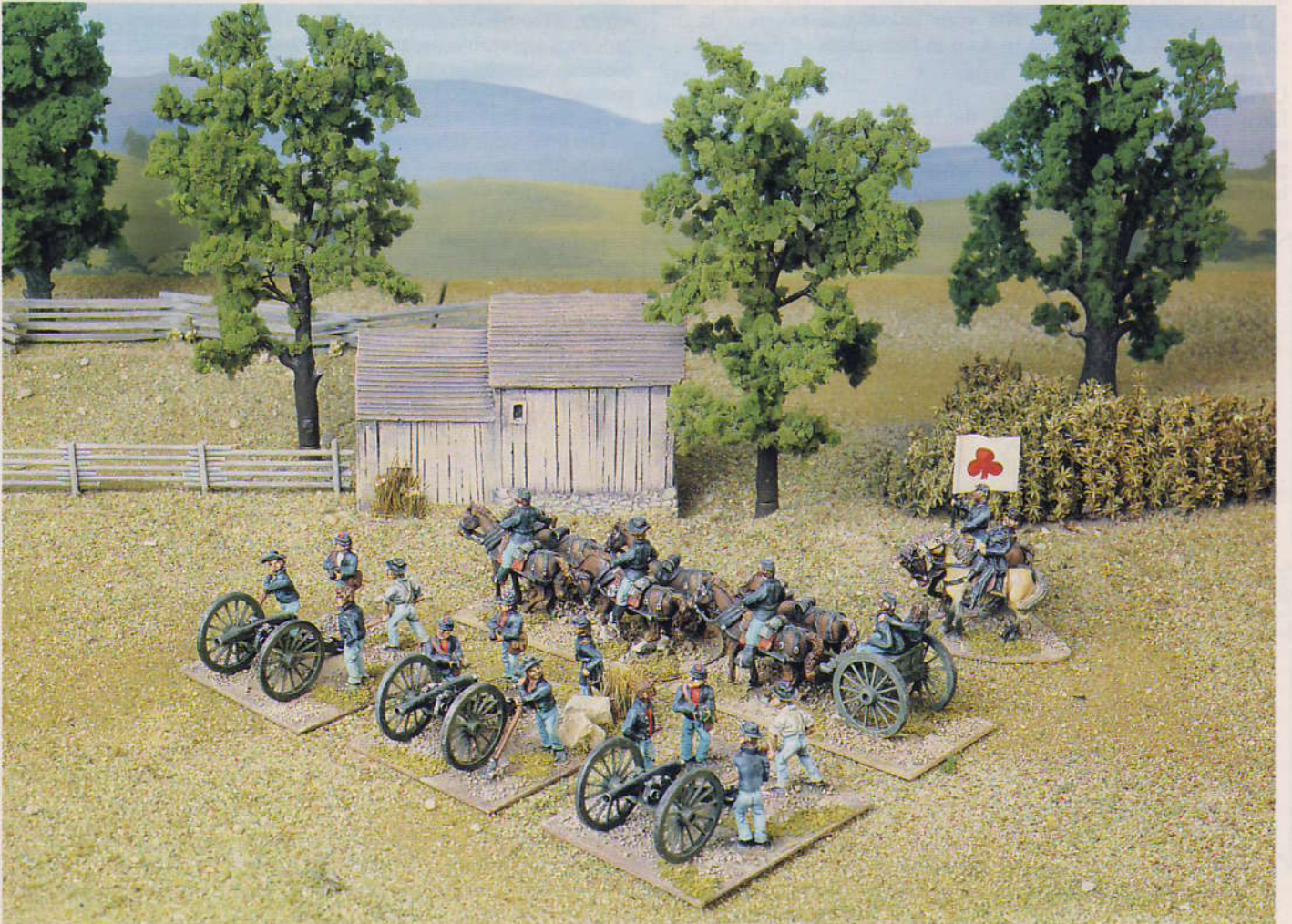
TERRAIN

by D. Whyte

Although terrain is an important aspect of wargaming; very few wargamers take the trouble to produce any, or just 'knock up' a few hills in half an hour. All the time spent on painting figures goes to waste if your playing surface is the dining-room table. If you actually take the time to make a terrain system it will not only provide the best environment for your armies to be used in, but also any outsiders to the hobby will have an interesting spectacle to catch their imagination. With this in mind I planned to produce terrain to a high standard.

Since I wanted to produce functional terrain which could be used in different variations time and again I opted for the now familiar 'MODULAR SYSTEM' using interchangable tiles. First of all it is necessary to plan the tile layout and what size it will be. I chose a 4' by 8' area, (a sheet of 6mm plywood) this would allow the completed terrain to fit onto my table tennis table with a useful six inch lip on either side. At this stage it is necessary to take into account several considerations:

1) The terrain must be simple enough to allow many different variations.
2) The terrain has a working function and so must have a playable surface.
3) Make sure any features are not out of proportion to the scale which you intend to use it for.
4) To be interchangeable each tile must have a uniform height on each edge.
5) Any roads or rivers should leave each tile from the centre of the side so that they are not restricted in placement.
6) Finally make sure the vegetation is realistic to the area you are trying to reproduce.

Draw out your plan on some card and then cut it into the squares and by trial and error you should find the best plan to suit your needs.

When you are satisfied with your layout you can now begin construction. I found it best to do it in four stages of eight tiles.

Construction

Each tile consists of two layers, the lower one being plywood for strength and rigidity and the upper being a one foot square polystyrene tile. This is one of the best methods of construction as it is both light and strong, and the polystyrene can easily be shaped during construction. It is best to use a wood glue to join the two halves. The polystyrene will not "melt". Tiles with river sections require a different method. Before you glue the tiles together cut the river channel out of the polystyrene and then glue the remaining halves onto the plywood; this produces a banked effect. Having glued the tile bases together, leave them for at least a day then it is possible to glue hill contours on. These are made by shaping the polystyrene as required. Several may be glued together to form a large hill, but make sure that the gradient is not too steep.

I found it best to paint the rivers at this stage as more care is needed later on. To produce the rivers I used a selection of Humbrol blues, greens, browns and white. (Any paints that can receive varnish will work just as well). First mix up a basic colour which you think looks more or less like a river colour. Using a large brush paint this basic colour onto the river area. If you are not satisfied with the shade, whilst it is still wet work in extra colours. A river is generally more blue near the centre and brown by the banks. When you are satisfied white paint can be dry-brushed on, though not too liberally. (Make sure all your brush-strokes are with or against the intended direction of flow.) When this has dried apply large amounts of varnish to give an impression of depth, clear resin is better but will melt the polystyrene.

Having prepared the rivers and hills you can now turn your attentions to the roads. First draw out the road pattern onto the polystyrene. To produce a sunken road effect remove the first layer or so of polystyrene so that a thin layer remains to cover the plywood. To produce an embanked road just glue on a thin layer of polystyrene. The road can be as wide as you like, but to be realistic a mud track should be no more than twice the width of a gun carriage.

At this point it is now possible to cover the polystyrene with Tetrion Filler. Here all minor features such as river levees, marshes and ditches can be produced. It took me three attempts to find the best method of covering the polystyrene. The first was plain tetrion filler, which, although it is simple and quick, is not satisfactory. However it produces a playable surface. The second attempt was a variation on the first, whereby green flock was sprinkled onto the wet paint. This produced a very good effect, however it is unsuitable for wargaming as the flock easily rubs off.

The final method I consider to be the best and consists of sawdust, tetrion filler and paint. First mix up the filler (powder is cheaper than ready mix) and then add the paint, in my case emerald and brunswick
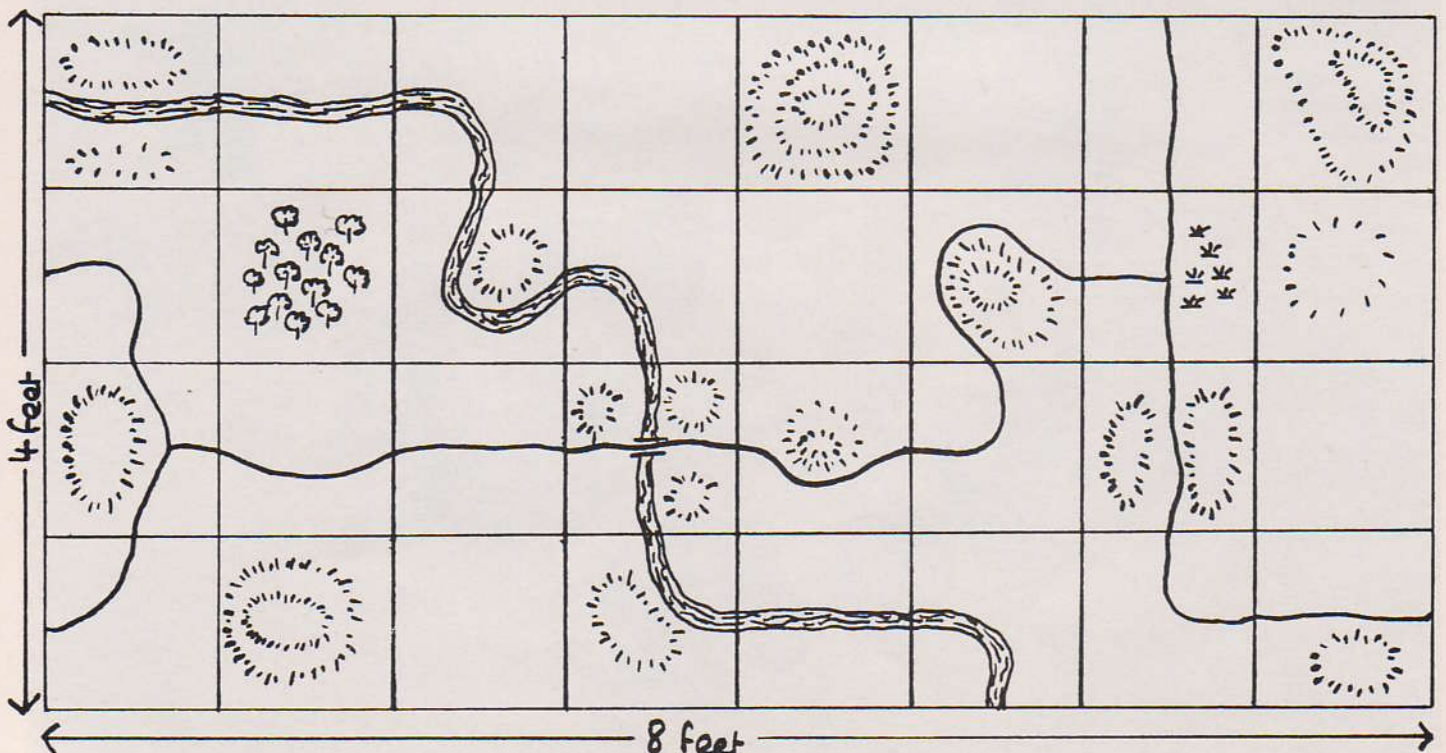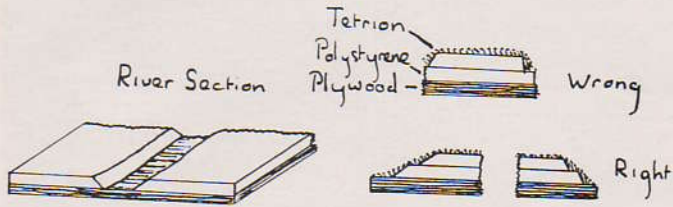
green to produce a grass green. Bear in mind that the colour will fade as the mixture dries. Add about twice as much sawdust as filler or until you obtain a porridge consistency. Now cover each tile with a layer of the mixture producing smooth slopes etc. With most of the terrain use a coarse sawdust, but for the roads it is better to use a finer sawdust with brown paint instead of green. The roads can be completed by drawing a cocktail stick through the damp mixture to produce wheel ruts. By varying the thickness of the mixture, banks and ditches can be formed. Finally at this stage marsh areas can be made; when the mixture has been put down, place short lengths of sisal string vertically into the tetrion, this same method can be used to make reed beds and cornfields. The sisal can be dyed before you cut it up by using thinned paints or commercial dyes.
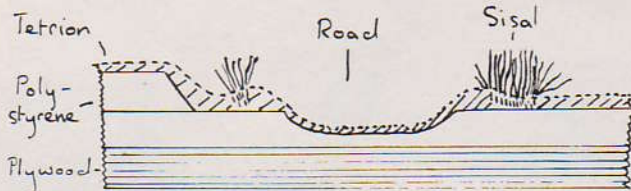
At this stage the terrain is almost complete and it only remains for some vegetation to be put on. There are models that you can buy, but these tend to be expensive. So again it is better to make your own, even if it does take some time. Trees are the most complex so I shall begin with them. There are two methods that I shall explain. The first is one often used by railway enthusiasts and uses sisal string, green flock, varnish, a pliable wire and a hand drill. Cut up the sisal into lengths of about three inches, then tease out the strands. Form a loop with about eight inches of wire and insert the two ends into the drill. Place the loose string between the wire, then put the wire loop over a nail to secure it and wind the drill until the wire snaps. Then cut the tree from the nail and place it into the drill again. The tree should then be dipped into the varnish, removing the excess by turning the drill. Once all the excess varnish has been removed dip the tree into the flock and allow to dry. This type of tree is ideal in large numbers as a few will cover a large area. If you place them singly they look straggly and need a lot of trimming. With this in mind I made one tile into a large wood. The trees I made by the second method I used in smaller groups for copses.
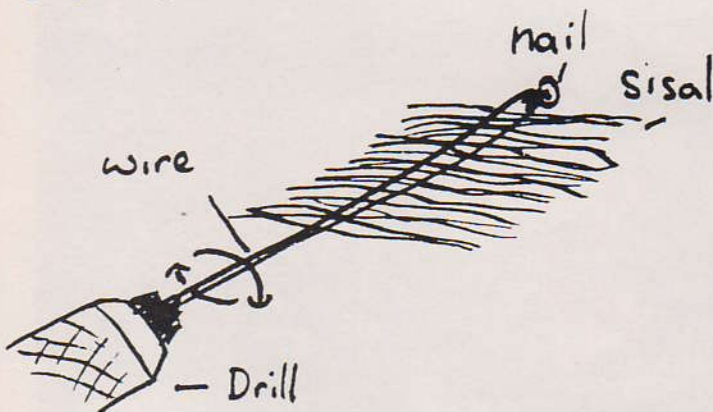
In this method lichen forms the branches and a matchstick the trunk. Pull the lichen into small pieces, round off a match and cover one end with glue and place this up the middle of some lichen. Secure this by winding brown cotton around the match and bottom of the lichen. When this is firm cover the lichen with glue and dip into flock;
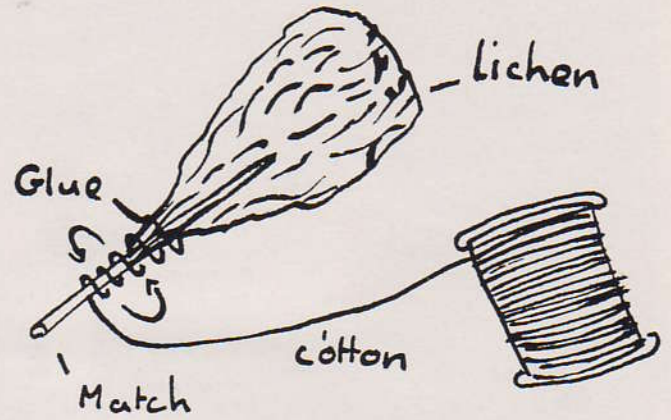
if the flock rubs off spray with varnish as a fixer. The trees can be held in place by drilling through to the plywood and inserting them, with glue on the base. However I did not place all my trees on the tiles, instead I based some on small card bases and fixed them with tetrion. This would allow changes to be made in the positions of some of the trees. Bushes can be made by using lichen again and covering it with flock and planting it with tetrion filler. (Flock made out of shredded sponge produces a better effect than the standard flock).

It now only remains for the hedges to be made and these are fairly quick and easy. Pan scrubs are the best at producing a hedge-like effect. Paint as best you can a length of pan scrub which should be just higher than a figure. Use dark greens and black at the base and light green at the top, and then cover it with grass flock. When it is dry spray varnish it and if necessary high-light with yellow and green.
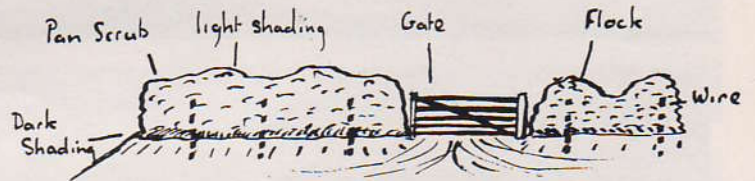
These can be placed anywhere on the terrain but I chose to put most of mine along the roads. To fix them push short lengths of wire into the filler along the course of the hedge and put glue in the intervals. Then push the completed hedge onto the wire. At various intervals gaps in the hedge row should be made; these can either be left as gaps or simple gates can be made. Five bar gates are easy to construct and can be made out of any scraps of wood or matches. As with the trees I made spare lengths of hedge so these could also be placed randomly.

All that needs to be done now is to tidy up the terrain. This is best done by dry-brushing over parts of the terrain that need it. Also any buildings can be placed on, along with bridges and walls. On my own terrain I have left out any of these as I would rather make them than buy them. The possibilities for terrain such as this are wide ranging. At the moment I am attempting to build a fantasy castle on a two foot square tile which would replace four of the smaller tiles. Anything can be attempted as long as you have the space and time. I hope I have inspired some of you to try your hand at such a project.
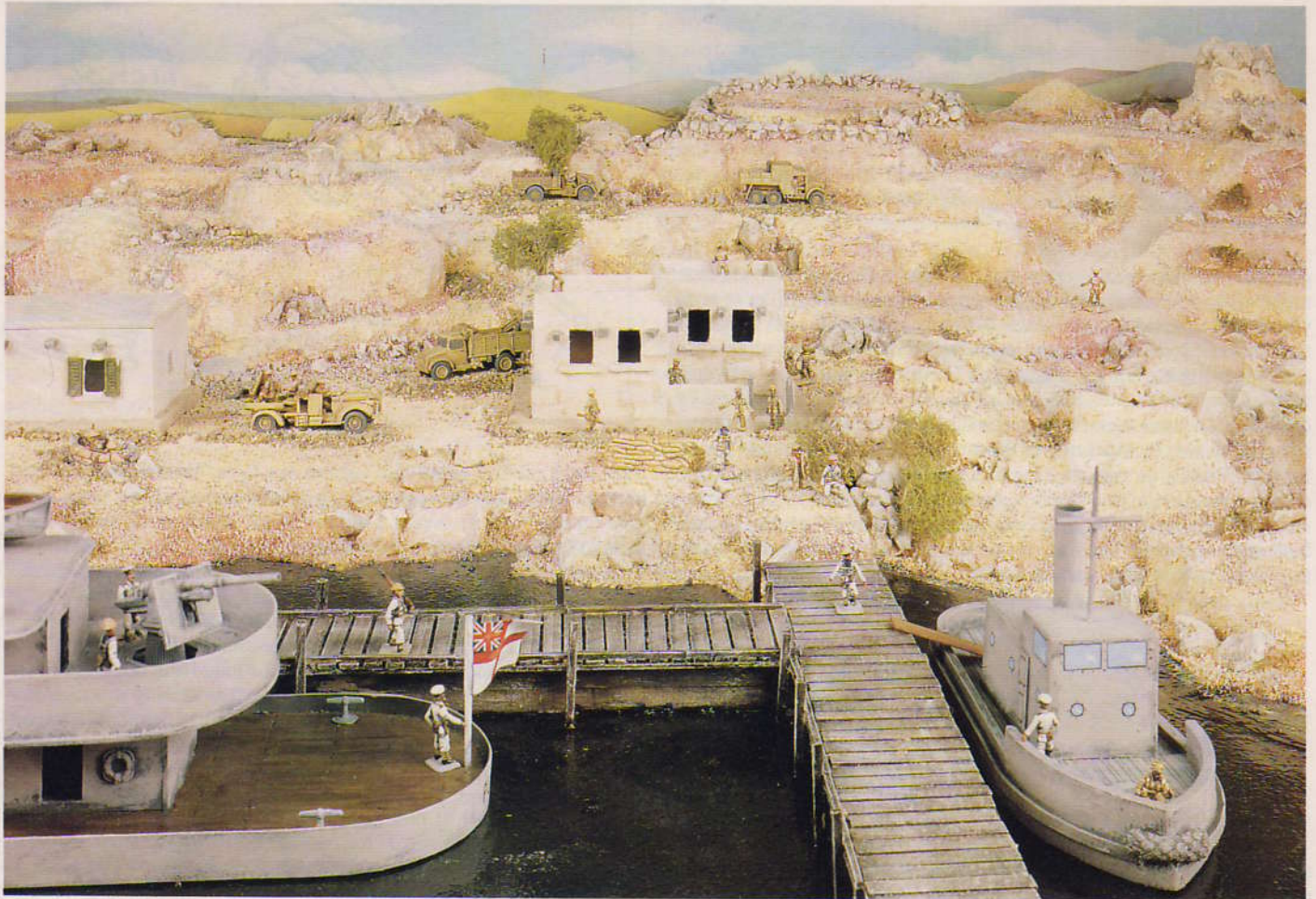
More of those

ITALIANS IN SOMALILAND

Back in Issue 12 we featured some of the "early WWII British vs. Italians in Somaliland" collection of Grimsby Wargames Club's Colin Rumford, Dave Hewins and Andy Hamilton. At that time (May '88) a demonstration game portraying the Italian conquest of (British evacuation of) Berbera was being prepared for display at various conventions. When we photographed on Thursday afternoon only two of the six 2-foot square terrain modules were ready – on Saturday morning the completed game made its debut at Beverley's Army Transport Museum, venue of the N.E. Regionals – a good final push over the last 36 hours. Seeing it there, in its final splendour, we determined to go back for another photo session. So here, as a preview to the game's appearance at this year's Sheffield Triples (or as a memento for those of you who saw it at Plymouth a couple of weeks ago), are more scenes of Italian triumph and British back-pedalling.

(P.T.O. for caption.)

COCHRANE & THE SPEEDY

by Rod Langton (Langton Miniatures)

In the Spring of 1800, at the age of 24, Lord Thomas Cochrane got his first command – it was not the most awe inspiring of vessels. Although grandly termed a Sloop of War by the Admiralty, *Speedy* was in fact a coasting Brig of some 158 tons. Her armament consisted of fourteen 4 pounder guns; the balls from these being so small that Cochrane is said to have carried the shot from a complete broadside in his coat pocket on one occasion, though whether as a joke or a gesture of comtempt history does not relate.

His crew was a more promising proposition, consisting of 84 men and boys and six officers. His deputy, a lieutenant by the name of Parker, was an excellent seaman. But far and away the greatest asset to His Majesty's Sloop of War *Speedy* was Cochrane himself.

Cochrane was an accomplished seaman to whom courage and decision came as second nature. Of equal importance to himself and his crew in the days of prize money was his natural talent for piracy. Within a fortnight of his taking command, HMS *Speedy* had captured a French ship *The Intrepide* (6) and two French prize crews. Six more prizes followed within the next two months. His crew, one assumes, must have been well pleased with their noble Scottish lord.

Word of the success of the *Speedy* soon travelled along the Spanish coast and in consequence the enemy grew watchful. Cochrane's answer to the enemy's increased vigilance was to re-paint his vessel so as to pose as a neutral Danish brig which operated in the same waters. It was thus under a Danish flag and in a vessel now called the *Clomer* that his adventure continued.

In December 1800, his Danish cover came in useful when he chased what appeared to be a well laden merchantman, but which subsequently turned out to be a powerful Spanish frigate. When challenged, Cochrane had a Danish speaking member of the crew explain that they had plague on board. As there was a plague raging in Algiers at the time, the Spanish readily believed the story and sailed away without molesting them. In the Spring of the next year, Cochrane was once again embroiled with an enemy frigate. This time the enemy vessel was not about to be fooled. She chased them for two days and a night, steadily overhauling them. Imagine the frigate's crew's surprise when at dawn on the second day her quarry had turned into a candle burning in a large wooden tub!

Later, in May, off Barcelona, in the morning mist the *Speedy* came across yet another Spanish warship the *Gamo* (32), a Xebec frigate with a crew of over 300. It was not the most propitious time for *Speedy* to engage in battle as her crew was reduced to 54 men, the remainder being employed taking prizes back to British-held territory. Nevertheless, Cochrane ordered his crew to clear for action. Once again, audacity paid. The Spanish commander, somewhat confused by the little ship heading so purposefully towards him, was even more bemused when Cochrane raised an American flag in answer to the Spaniards' shot across his bows.

This deception allowed Cochrane to pass from the windward to the leeward side of the Spanish vessel, whereupon he exchanged the neutral American flag for a British ensign. On seeing this, the frigate loosed off a hasty, ill-aimed broadside which the *Speedy* survived. A second broadside came when the *Speedy* was so close that the balls passed clear over her decks due to her diminutive size. Then she was alongside the frigate, her tiny cannon angled up to their furthest extent and loaded with double shot. On the command 'Fire', they discharged their lethal cargo upwards through the gun deck of the frigate causing utter devastation and, luckily for the British, killing the Spanish captain.

The engagement was to continue for perhaps an hour, the British gunners unable to miss; the Spanish shredding and damaging spars, but otherwise ineffective. They tried to board three times – each time Cochrane would swing away and blast the boarding party as it mustered on the frigate's gangway. Finally, it was time for Cochrane to do the boarding. He sent half his men forward with blackened faces, then, leaving the surgeon in command of the wheel, he boarded the frigate amidships. Within seconds he had the complete attention of the Spanish crew as he and his men laid enthusiastically to right and left. Suddenly the other half of *Speedy's* crew, faces blackened, having climbed the frigate bows, broke screaming upon the startled Spaniards. Cochrane then roared at the surgeon to send over the next wave of boarders. Startled, as he was alone on board, the surgeon acknowledged the order. The trick worked; expecting yet another onslaught of fanatical British leaping towards them, the frigate's leaderless crew began to edge towards the stern, the more faint hearted amongst them being somewhat relieved to see the Spanish flag being lowered quickly towards the deck. In fact it had been lowered by a British seaman on Cochrane's orders. Nevertheless, it was enough for the demoralised Spanish crew – their weapons fell with a clatter to the deck.

Soon all 263 surviving Spaniards were incarcerated in the frigate's hold. Any thoughts they might have had of overwhelming their adversaries, whom they greatly outnumbered, were soon

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Photos on preceding pages.

*Top left: Berbera Harbour. The stern of the gunboat HMS Puffin (a fictional name, but consistent with the names of seabirds chosen for this type of vessel), a scratch-built model of balsa, cardboard, and thin plywood. The tug, similarly constructed, was actually made for an 'Operation Sea-Lion' mini-campaign, but is dropped in here as a stimulus to the scratch-builders among you. The aim of the scratch-building is to produce a good looking, wargames viable model rather than an exact-to-the-last-detail job: in short, a caricature. Naval personnel (notice I don't say 'personal' – I'm not a Barclay's Bank secretary!) are **Jacklex** conversions. Jacklex (designed by Jack Alexander – get it?) are available from the Harrow Model Shop, 190-194 Station Road, Harrow, Middlesex. Ashore is a 2pdr portée, a **Hinchliffe** gun model (now available from **Skytrex**, of course) on a **Matchbox** Chevrolet conversion. Coming down the mountain road is an old **Airfix** Morris Bofors tractor. The trucks are "chopped about" chevrolets.*

*Lower left: King's African Rifles withdraw. These are **Raventhorp Miniatures**, designed by Raventhorp supremo, Tony Chadburn. The little truck parked in lee of the rocky knoll is an old **Eric Clark** Austin Utility resin kit, now available from **Milicast** of Glasgow. On the horizon, top right, can just be seen a couple of L3/35 tankettes. These particular models are from the now defunct **Ahketon**, whose bankruptcy you may have read about on the front page of 'Games Trade Monthly' a couple of months back. Panic not! L3/35's in resin can be had from **Cromwell Models** of Glasgow.*

*Top right: An Italian column on the move, headed by a Fiat 3000 Assault Tank – an adaptation of the Renault FT17 – the model being a **Matchbox** conversion. Second in line is a Lancia IZM armoured car, a **Raventhorp Miniatures** metal kit, designed by Mick Sewell. The "Lancia" truck behind is (originally) an **EFSI** 1/60th scale Model T Ford die-cast toy. Round the bend, behind the askaris and their pack mule is a Fiat Militaire staff car, an **A.L.-B.Y. Models** of France job. (Colin waited 10 months for delivery of this resin kit.) The figures in the staff car are once again **Raventhorp Miniatures**.*

*Lower right: More Italian armoured might trundles along a dusty East African track. An L6/40 light tank "rides point", a polyurethane resin kit by **Ost Models**, manufactured under licence in the U.K. by **Cromwell Models**. It is supported by a captured British Bren Gun Carrier, mounting a Lewis gun. An old **Airfix** plastic kit, with **PlastiKard** sand-skirts added. The crew (and the Lewis gun) are (inevitably?) **Raventhorp Miniatures**. Rear of the column is an **S. & S. Models** Fiat TL37 truck resin kit. The staff car is the same model as in the last photo. (The subtle difference being that it is now in "Parked" mode!) The Bersaglieri motor-cyclist is a **Raventhorp Miniatures** model – but you could probably have told me that!*

*A final note: all the terrain is based on the 2' square **T.S.S.** polystyrene modules. Obviously the conversion is rather radical!*

dashed by the appearance of two of their own 24 pounder carronades aimed at them and manned by two British gun crews with lighted tapers.

So returned the *Speedy*, with scarcely a dozen men to man her, to the British base of Minorca, the bulk of her crew required to man her prize which towered above her as she entered the harbour.

Cochrane's immediate superior enthusiastically reported the action, which caught the public's imagination and occasioned a painting of the event by the celebrated marine painter, Nicholas Pocock. No such enthusiasm however was shown in official circles, for Cochrane, though regarded as a brave and accomplished seaman, was not well liked at the Admiralty.

His unpopularity began with Lord Keith, the admiral under whom he served, who disliked Cochrane from the days when Cochrane had been a lieutenant on his flagship. Cochrane had not been and would never be an easy subordinate. The same attributes which made him a terror to his country's enemies, made it difficult for him to serve under any one whom he considered less than perfect.

Cochrane was a rigidly honest and correct man and he expected everyone, especially his superiors, to behave in the same way. Things came to a head in 1798 when a particularly pompous 1st lieutenant named Beaver attempted to treat Cochrane unjustly. His reaction was taken – rightly or wrongly – by Beaver, to be a challenge to a duel. Beaver immediately complained to the captain and demanded a court martial for disrespect and insubordination. The court martial duly took place under Lord Keith and although Cochrane was acquitted, he was now on record as being disrespectful to his superiors.

Thus, when in 1801 the report of the *Gamo* incident reached the Admiralry, it was not treated with favour. The 1st Lord St Vincent had a reputation to maintain as a scourge of rebellious officers and mutinous seamen, and the mutinies at the Nore and Spithead were still fresh in people's minds. Cochrane's record for disrespect to a superior was reason enough for the old man to react unfavourably.

Traditionally, the Xebec class frigate would have been brought into the navy and Cochrane given command. This would have meant a considerable sum of prize money and Cochrane's elevation to Post Captain. Instead, rather vindictively, the Admiralty decreed the the *Gamo* should be sold as a hulk at a fraction of her worth. This also meant that there was no reason to promote Cochrane to Post Captain. So began a war between Cochrane and the Admiralty which was just as bitter as the one he fought against his country's enemies. His 1st lieutenant Parker had, despite wounds in chest and thigh, courageously led his section of the boarding part in the attack on the *Gamo*. Cochrane felt honour bound, even if he could not obtain justice for himself, at least to see that Parker received his just reward – a command of his own.

To this end he wrote a series of letters to St Vincent and the Admiralty. All his arguments were urbanely turned aside. In one letter St Vincent wrote that the small number of men killed didn't warrant the application. This piece of cant so infuriated Cochrane that he was oblivious to tact and diplomacy, to the detriment of his case on Parker's behalf. Angrily, he wrote back to the 1st Lord reminding him that in the battle from which he (St Vincent) derived his title, his flagship had only had one man killed. Nothing could have been calculated to anger St Vincent more, who knew his enemies were saying he had stayed back at Cape St Vincent and let Nelson and the inshore squadron do the fighting. Needless to say, Lieutenant Parker did not receive his promotion.

So Cochrane and the *Speedy* continued their harassment of the Spanish and French. It was now the summer of 1801, and in company with the *Kangaroo* (18) he ravaged the coast of Old Castile, razing gun towers and taking or burning shipping in their protection.

In July, the *Speedy* was escorting a packet boat when she saw some Spanish vessels in a bay bear Alicante. Impetuously she left the packet and stood into the bay, anchored and proceeded to engage the ships – which ran themselves ashore to evade capture. Some of the vessels were carrying oil and the glow of their burning filled the night sky for many miles around. The next morning, as she was working out of the bay, she saw the topsails of three ships on the horizon. They were three of the most powerful ships in the French navy: the *Indomitable* (80), the *Formidable* (80) and the *Dessaix* (74). This squadron, under Rear Admiral Durand Linois was en
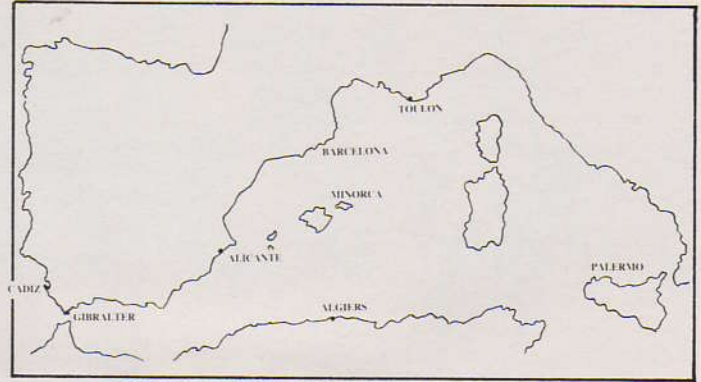
AREA OF SPEEDY'S ACTIONS 1800-1801

route from Toulon to Cadiz.

Cochrane immediately ordered full sail in an endeavour to outmanoeuvre and evade the enemy. It was a forlorn hope – pinned by the arms of the bay on two sides and the three magnificent line-of-battle ships which had moved apart to block his escape on the other. Still, he tried. First he jettisoned his 14 pounder pop guns, then his stores. Then he began to dodge and dart about, changing his courses as often as practicable so as to avoid the broadsides of his huge protagonists.

In avoiding the broadsides, he inevitably left himself open to fire from the chase guns in the bows and stern of the French ships. These shots, although less devasting than the awesome power of a full broadside, soon began to take their toll and spars and rigging began to litter the *Speedy's* deck.

Suddenly Cochrane executed a manoeuvre that perhaps only he would have dared try. He sailed straight between two of the great ships assailing him, in an endeavour to reach the open sea and perhaps safety. The French were astonished at his temerity and in consequence only one vessel, the *Dessaix*, managed a hasty broadside. The *Speedy* survived and headed hopefully for the open sea. Captain Christie Palliere of the *Dessaix* however was not to be denied and tacked in pursuit.

For an hour the *Speedy* dodged and weaved to try to escape her opponent, but with each shot from the *Dessaix's* bow guns, more holes appeared in her already tattered canvas and in consequence her speed diminished. Finally, within musket shot, the *Dessaix* tacked and fired a broadside. Fortunately, the *Speedy's* momentum fell off even more at that moment and the majority of the shot fell ahead of her, thus saving her crew from complete annihilation. It was enough. Not a spar or a piece of canvas remained on the little brig, and Cochrane ordered the colours to be lowered. As was customary, on reaching the deck of the victorious *Dessaix*, Cochrane offered his sword; but Captain Palliere courteously refused to take the sword of such a brave man.

So it was that *Speedy* and Cochrane parted company after little more than a year together. It had been an eventful time. They had taken over 50 vessels, 122 guns and over 500 prisoners. This meant that his lowliest crewman had earned more than most naval officers during that year.

He was not to remain a prisoner for very long. After only two weeks he was fortunate enough to be exchanged and was thus able to continue his battle with the French and Spanish armies and navies as well as the British Admiralty.

Cochrane was a superb naval officer, recognised as such by Nelson even before he attained his first command. In later years he became commander-in-chief of several navies and eventually an admiral in the British navy. His inventive genius, together with his tactical ability, had he been allowed to deploy them, could have cut short both the Napoleonic and the Crimean wars. However, his elevated sense of duty, honour and justice caused him to be in perpetual conflict with the powers that be in Georgian England and thus never to have his achievements recognised by his contemporaries.

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Usually at this point the writer offers the reader a wargame scenario. A difficult task when contemplating the operations conducted by Lord Cochrane. Rules just don't allow for an opponent who cheerfully and habitually takes on odds of 10-1 or better! – So I'll leave it to you to work something out!

Two Sudan scenes showing troops to be deployed in the forthcoming campaign. All Connoisseur Figures from the collection of Peter "Chinese Gordon" Gilder.

A SUDAN CAMPAIGN

Part III

by Peter Gilder

[In the last part of this series there was one glaring mistake, Mahdist sword and spearmen are mounted on a base 100mm × 45mm not 200mm as stated. Secondly, still regarding Part II, the list of Imperial forces are the absolute maximum available should the British government agree to an expedition in the first place, whether or not we shall have them all in our campaign only time will tell.]

The time is late Feb. 1884. The outlook in the Sudan worsens with every day. Valentine Baker sent with his dubious gendarmerie, a collection of goalbirds, policemen and raw recruits, to stem this revolt in the eastern Sudan, marches out from Trinkitat only to have half his force wiped out at El Teb. The Mahdist cause was furthered, with more tribes going over to join in this holy war. Not only a great victory for the cause, but a treasure of captured weapons to add to the Mahdi's arsenal, already stocked with modern weapons from Hicks' defeat in the west.

Gordon has arrived in Khartoum and declares he is to evacuate the Sudan of all Egyptian soldiers and civilian personnel. This, on top of all else, has sent more tribes hovering on the fence to join in this crusade on the side of the 'Expected One'. The last straw was the loss of Tokar to the Ansar. With Berber being threatened and the eastern ports now under direct threat the two supply routes into the Sudan could soon be in enemy hands. The British government acts, albeit reluctantly. An expeditionary force is sent to Suakin, commanded by General Graham, VC. His orders are specific. Secure the Red Sea ports, break the hold of the wily Osman Digna in the area, and relieve Tokar. These are his first objectives. Secondly he has with him army engineers and officials from a railway company, who have been given the task of building a railway from Suakin to Berber. Graham's force consists of:

From the British garrison in Egypt:
  1st Battalion Gordon Highlanders
  Royal Marine Light Infantry
  19th Hussars
  Naval Brigade
  1st Battery Southern Div. R.A.

From India and Aden:
  1st Battalion Yorks and Lancs
  Royal Irish Fusiliers
  17th Bengal Infantry
  28th Bengal Infantry
  9th Bengal Lancers

plus Indian muleteers, watercarriers and other assorted followers. As well as these there are also available ten companies of Egyptians plus 2 Krupp guns already in and around Suakin. This leaves a British garrison in Egypt of:

  3rd Btn King's Royal Rifles
  1st Btn Black Watch
  1st Btn Royal West Kents
  10th Hussars
  6th Battery Royal Horse Artillery

as well as the Egyptian army listed in part 2.

The troops listed in part 2 and not listed here, either with Graham or in garrison in Egypt, are those that would be available to the campaign should the government agree.

Now we come to our involvement, the scene is set and it is now up to us take over and do our best to carry out Graham's orders and see the campaign through to its conclusion. A meeting of the Generals takes place on the evening of 26th Feb. at the British camp outside Suakin. Firstly the intelligence reports. Tokar as we know has fallen and Osman Digna is still in that locality with about 8,000 men. The remainder of his force was last reported at Ariab (5G) some 6,000

men, the movement of this force seems to indicate they are moving towards Suakin through Tambuk, Otao and Handub (5H). There is also a small force of some 2,000 at Sinkat (6H).

The Egyptian garrisons in the area are as follows: 4 companies infantry and 2 Krupps guns in Suakin; 3 coys infantry in Trinkitat; and 3 companies in Otao. The report adds now a complication to the game. Osman Digna has split his force into two fairly equal parts, which means if General Graham moves against Tokar with his complete force it leaves a large enemy force behind him and his supply base of Suakin threatened. The generals decide. General Graham, V.C. (alias David Thomas) orders Major General Sir Redvers Buller, V.C. (Dave Hoyles) to take the 1st Brigade, consisting of The Gordons, Yorks and Lancs, Royal Marine Light Infantry and the Naval Brigade, with the artillery and all the cavalry, commanded by Brigadier General Herbert Stewart, and transport them to Trinkitat (6I) thence on to Tokar. This force Graham will accompany. The second Brigade under Major General Davis (Doug Mason), which is the remainder of the force, will move up to Otao (5H) and will include the two Krupp guns, but leaving behind in Suakin the Egyptian infantry garrisoned there. Davis is not to advance any further west, but to hold Otao should he be attacked.

This then is our first campaign situation, how this turns out will be the subject of the next part.

Before we close, a few notes on some of the actual mechanics of the campaign. The basic movement is by squares. A square is 60 miles across and on average it takes seven days to cross. This varies with situations and the throw of a random 6 sided dice each time you intend to move into a square. The table shows the effect of this random dice.

	DICE THROW						
	1	2	3	4	5	6	7
Days to cross square	9	8	7	7	6	6	5

+1 to dice if all force is mounted.
−1 to dice if moving through square with Mahdist influence.
−2 to dice if moving through square with Mahdist control.

If, when moving, you stick to the caravan routes, marked with a dotted line on the map, you may take water from wells on route. If you go through squares not so marked you must take your water with you. More of that later. Because of the tremendous supply problem each force can only move at the normal rate if it doesn't exceed four units. A unit in this instant is up to 2 squadrons for cavalry, a battalion of infantry or an artillery unit. The Naval Brigade also counts as one unit. Gatling guns attached to infantry units are counted as part of that unit. A force that is larger than this must, if it wants to maintain speed, split into segments, each segment not bigger than four units. Order of march must be given and segments will have 2 days march between them. The other alternative is to march as a whole, but only move at half speed. This simple mechanism ensures we cannot move large imperial forces about the Sudan at the speed of sound!

As mentioned before, if moving off the caravan routes you must carry water with you. Even if you are moving along a caravan route it is as well to carry water with you. (You may find poisoned water holes and wells!) One camel or mule will carry enough water for 7 days for one unit, as designated previously. One mule or camel will carry 120 rounds of small arms ammo or twelve rounds for artillery ammo. Lastly a camel or mule will carry enough food supplies etc. for one unit for seven days. That then is the simple supply system we

THE CONGRESS OF BERLIN 1878 COMMITTEE GAME

In the chair: Brian Cameron

This is a game about the diplomatic efforts which brought about the end of the Russo-Turkish War and the Balkan crisis which had endangered the peace of Europe. The Congress was the last example of the concert of Europe which had its great success with the Congress of Vienna in 1814.

The committee game structure deserves some words as it is not the best known of wargame formats. Committee games have their origins in management games used by various organisations and educational role playing games. Their use as a format for wargames was pioneered by Wargame Developments with two council-of-war games, the "Ruritanian Strategic Planning Game" and the "Chinese Revolutionary Party 1927." Typically, in such games, all the players are on the same side with the same broad aim (e.g. the formation of a successful war–winning strategy), but may have different approaches and individual objectives. The Head of the Air Force, for instance, wants the main focus of the plan to be the bombing of the enemy into submission, but the Head of the Army may want the war to be clearly won on the ground. This will influence their suggestions as to strategy, allocation of resources, etc. The games thus reflect the tensions and conflicts present in such circumstances. There are many examples of situations in which plans were influenced by conflicting views, eg. differences between the various factions within the Parliamentarians during the English Civil War.

The present game was inspired by a game based on the Congress of Vienna published as an educational aid by Longmans. The two thus have a similar structure. Each country is represented by a single player or a team, depending on how many players you have available. Four players/teams are required to represent Britain, Germany, Russia and Austria. (Although the French were present their role seems to have been minimal and for convenience I have left them out. Historically Turkey was forced to accept whatever agreement the major powers came to and so in the game they are not represented either). Each country has its own objectives and these are described in the individual briefings which supplement the general one and the victory points schedule. Prospective game organisers should note that these have been summarised onto one table to save space and that players should only be given their own country's schedule, together with a copy of the general briefing and its individual one. (Where would wargaming be without photocopying?). The briefings give an indication of the other countries' objectives, which should become clearer as negotiations proceed. Prospective players should not read the briefing materials apart from the general one if they hope to find some willing soul to organise a game.

If a team is representing each country they should agree one player as the chief delegate who resolves any disagreements and priority for their objectives. Players should realise that they will not achieve everthing, but that the aim is to obtain the most favourable compromise. Play then preceeds with a period of negotiation before each item and then the voting for that item. As the items are worked through the time required for negotiation will probably become shorter as players will have made deals early on which affect more than the current item. Organisers will need to set a time limit to discussions and call players together for voting. Even if only one room is available for the game private conversations between delegates will be possible without everyone being privy to the matters discussed. Game organisers may also wish to indulge in some casting and allocate the Russian role to the shrewder players.

A cautionary note – the actual congress was a formality, most of the real diplomacy having been completed beforehand. The somewhat formal manner of voting is really a device to give the game a structure, otherwise the discussion could go on endlessly. I have simplified some of the complications of the situation so as to reduce the complexity of the briefings which the players have to digest. For more on the historical situation I would refer readers to the bibliography at the end of this article. Details of the Russo-Turkish War can be found in Richard Brookes' article in issue five of this magazine.

VOTING ON THE ITEMS

1. Each item will be voted on in turn and the voting on each item will be completed before moving on to the next item.

2. Each item will be voted on as a whole and the proposal must cover all points in that item.

3. For item 1 Russia will have the first opportunity to propose a motion. If this fails the initiative passes in sequence to: Austria; Britain; Germany.

4. For item 2 Austria will have the first opportunity to propose a motion. If this fails the initiative passes in sequence to: Britain; Germany; Russia.

5. For item 3 Britain will have the first opportunity to propose a motion. If this fails the initiative will pass in sequence to: Germany; Austria; Russia.

6. For item 4 Germany will have the first opportunity to propose a motion. If this fails then the initiative passes in sequence to: Russia, Austria, Britain.

7. For the first two rounds of voting on any item the agreement of three of the four parties is necessary, one of whom must be Russia. If there is no agreement after two rounds of voting each power who voted against the motion in the second round loses 20 points. After the second round of voting the agreement of any three is sufficient for a motion to pass. For each further round of voting which does not produce a positive result a further ten points is lost by all powers.

CONGRESS OF BERLIN – GENERAL BRIEFING
(May be read by all players)

In 1876 Christian subjects of the Ottoman Empire in the provinces of Bosnia, Herzogovinia and Bulgaria revolted as a result of Turkish misrule. The autonomous Balkan states of Serbia and Montenegro declared war on the Ottoman Empire. Serbia and Montenegro were defeated and the revolts bloodily suppressed. The rise of Pan-Slav feeling in Russia had led to renewed interest in the various Slavic peoples in the Balkan states. This pressure led Russia to suggest various reforms to the Ottoman Turkish empire. Turkey, still confident of backing from Austria, France, and in particular Britain, as a result of the agreements made at the end of the Crimean War twenty years earlier refused.

When Turkey failed to carry out the suggested reforms Russia then acted to clear the way for unilateral action. An agreement was concluded between Austria and Russia by which Russia would not set up a large Slavic state in the Balkans in any peace settlement after the war. This would be a dangerous example to the Slavic minority, and indeed to all the minorities, within the Austro-Hungarian Empire. Russia also informed Her Majesty's government that it would not occupy Constantinople and had no interest in Egypt and the strategic Suez Canal. With this reassurance Britain was agreeable to Russia intervening.

As a result in 1877 Russia declared war on the Ottomans in support of the Slav population of the Balkan states. The Russians, having just reformed their army, expected to defeat the Turks fairly easily, but an unexpectedly stout defence of the fortress of Plevna held up the Russian advance for five months. After the conclusion of the siege the Russians pressed on and by January 1878 had advanced to within sight of Constantinople. Somewhat alarmed, Britain sent a fleet to the area, troops to Malta, and threatened war if the Russians entered Constantinople.

The war was ended by the Treaty of San Stephano between Russia and Turkey. The treaty contained the following provisions:

(i) Turkey conceded the Independence of Serbia, Montenegro and Rumania.
(ii) Bulgaria was to be greatly increased in size by the addition of Macedonia, East Rumelia, Thessaly and Albania and become an independent state under Russian supervision.
(iii) Russia was to gain Bessarabia and the Caucasian states of Ardahan, Kars, Batum and Bayazid.

As this involved Turkey losing almost all her territory in Europe, Austria and Britain were dismayed at this change in the balance of power and the considerable expansion of Russian influence in the sensitive area of the Balkans. Austria was unhappy that Russia had broken the spirit of their agreement and had set up a large Slav state (Bulgaria). A large number of independent Slavic states in the Balkans were an obvious danger to the Austro-Hungarian Empire which contained a substantial Slavic minority. Britain perceived a danger to her interests in the Middle-East and the route to India.

To avert war Chancellor Bismarck of Germany made a speech in which he offered to be the 'honest broker' between the powers and a Congress was arranged in Berlin to consider revising the terms of the treaty. Russia realised that, having failed to gain a *fait accompli* with the Treaty of San Stephano, it had little choice but to accept a scaling down of its terms.

RUSSIAN BRIEFING
Chief Delegate: Chancellor Gorchakov

It was hope that the other powers would except the Treaty of San Stephano as a *fait accompli* but this has not been the case. Russia has had to agree to a Congress at which it is clear that the enlarged state of Bulgaria will have to be scaled down to a more acceptable size. It is important however from the domestic point of view that as much as possible of the gains made in the Balkans be maintained. It would however be acceptable for the states of Bosnia and Herzogovinia to be placed under Austrian domination and thus sooth Austrian feeling over the broken agreement. Strategic gains in Bessarabia and Dobrudja should be retained if possible and it is desirable to retain as much as possible of the areas conceded in the Caucasus (i.e. Ardahan, Kars, Batum and Bayazid).

AUSTRIAN BRIEFING
Chief Delegate: Count Andrassy

The provisions of the Treaty of San Stephano have set up a large independent Slavic state which is clearly unacceptable and against the agreement between the two countries. Russia has had to agree to a Congress at which it is clear that the enlarged state of Bulgaria will have to be scaled down to a more acceptable size.

The dismemberment of the Turkish Empire would likely cause more problems than it would solve so the basic integrity of the Ottoman domains must be maintained. Whilst it would seem necessary for the present state of Bulgaria to become independent, (Russia will, domestically, need to present some gains from the war) any increase in its size would be undesirable. To prevent further trouble it would be satisfactory if Bosnia, Herzogovinia and Novi-Bazaar were brought under Austrian administration. This territorial addition would also strengthen Austria's hold on the Dalmatian coastline. A strengthening of Rumania as an autonomous state of the Turkish empire would limit Russian advances in the Balkans and provide a buffer. Again it is only reasonable that Russia should maintain some of her gains in the Caucasus, but these should be the less strategic areas.

BRITISH BRIEFING
Chief Delegate: Benjamin Disraeli

The provisions of this treaty have set up a large independent Slavic state which is clearly unacceptable to Austria and against the agreement between the two countries. It is also unacceptable to Britain in that it would largely dismantle the Turkish Empire in Europe and replace it with a Russian client state. Russian has had to agree to a Congress at which it is clear that the enlarged state of Bulgaria will have to be scaled down to a more acceptable size.

The basic integrity of the Ottoman domains must be maintained. The strengthening of Rumania to act as a buffer between Russia and Turkey would seem advisable. Further extension of Russian influence in the Balkans or the Caucasus should be avoided, but some may have to be accepted.

GERMAN BRIEFING
Chief Delegate: Chancellor Bismarck

The provisions of the Treaty of San Stephano have set up a large independent Slavic state which is clearly unacceptable to Austria-Hungary and against the agreement between the two countries. Russia has had to agree to a Congress at which it is clear that the enlarged state of Bulgaria will have to be scaled down to a more acceptable size.

The Congress will be an opportunity for the recently united German Empire to demonstrate its influence on European affairs by displaying its statesmanship and being the driving force behind a suitable compromise.

The dismemberment of the Turkish Empire would likely cause more problems than it would solve so the basic integrity of the Ottoman domains must be maintained. To prevent further trouble it would be satisfactory if Bosnia, Herzogovinia and Novi-Bazaar were brought under Austrian administration. A strengthening of Rumania as an independent state would limit Russian advances in the Balkans and provide a buffer. It is only reasonable that Russia should maintain some of her gains in the Caucasus and Bessarabia.

THE VICTORY POINTS SCHEDULE. Note that in several cases that a country has more than one option on a particular item, but obviously only one option can be achieved. There are also a couple of options which no one wants, but these may be useful negotiating positions.

CONGRESS OF BERLIN – ITEM 1 (BULGARIA)

Area	Options	Russia	Britain	Germany	Austria
Bulgaria	Become independent	5			
	Autonomous under Turkey		10		10
	Autonomous under Russia	10		10	
East Rumelia	To Bulgaria	10			
	Remain Turkish		10	10	
	Autonomous under Turkey	5		5	5
Macedonia	To Bulgaria	5			
	Remain Turkish		10	5	10
Albania	To Bulgaria	5		5	
	Remain Turkish		10		5
Thessaly	To Bulgaria	5			
	Remain Turkish		10	5	5

CONGRESS OF BERLIN – ITEM 2 (BOSNIA-HERZOGOVINIA)

Area	Options	Russia	Britain	Germany	Austria
Bosnia	Austrian Possession			10	10
	Occupied by Austria but remain part of Turkey	5	5		5
	Become independent				
Herzogovinia	Austrian possession			10	10
	Occupied by Austria but remain part of Turkey	5	5		5
	Become independent				
Novi-bazaar	Austrian possession			5	10
	Occupied by Austria but remain part of Turkey	5	5		5
	Become independent				

CONGRESS OF BERLIN – ITEM 3 (RUMANIA/BESSARABIA/DOBRUDJA)

Area	Options	Russia	Britain	Germany	Austria
Rumania	Remain autonomous under Turkey	5			5
	Become independent		5	10	
Bessarabia	To Russia	10		5	
	To Rumania		5		5
Dobrudja	To Russia	10			
	To Rumania		5	5	5
	To Bulgaria	5			

CONGRESS OF BERLIN – ITEM 4 (THE CAUCASUS)

Area	Options	Russia	Britain	Germany	Austria
Ardahan	To Russia	5		5	
	Remain Turkish		5		5
Kars	To Russia	5		5	
	Remain Turkish		5	5	
Batum	To Russia	5		5	
	Remain Turkish		5		5
Bayazid	To Russia	5		5	
	Remain Turkish		5	5	

Sudan Campaign/Peter Gilder (continued from page 59).

use in our games. The supply animals must be with the force on the table when we play our games. Mules and camels must have at least one handler for each two animals. At the commencement of the game these handlers must be in addition to the troops, it is only when handlers are killed or run away that you may detail troops to lead these beasts.

Casualties in our games are treated as such, any casualties on imperial troops after the game are divided up as follows: 25% are dead and lost to the campaign, 50% are returned to service in 14 days and the remainder are returned to service after 28 days. As the campaign unfolds I will try to explain a little more of the mechanics as we go along. Last but not least, if any of you out there would like to take part in the campaign, then let me know (enclosing a largish envelope). The idea is that I will occasionally send out scenarios which I want resolving. It may be we send out the same scenario to several different people. Each group will fight out the situation and let me have a report back. It may then be that we use that report in this series. What actual rules you use are up to you. To those that do want to, I will send out a questionnaire regarding the numbers of troops etc. that you have available and one or two other things, which will enable me to decide which scenarios go to whom. Remember as the campaign gets under way we have Gordon in Khartoum with his Egyptian and Sudanese troops, the Nile and, if it ever arrives, the British relief expedition. This then gives many varied situations that will arise over the next few months.

See you next quarter.

My grandfather says in his day they used to wear more armour and weigh less

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THE WAR IN THE AIR, 1914-1918

by J.E. Cundey

Few people's imagination has ever been stirred by the "Great War" and this is perhaps best expressed in the words of Winston Churchill; "No part of the Great War compares in interest with its opening, the first collision was a drama never surpassed and all that happened afterwards consisted of battles which, however formidable, were but desperate and vain appeals against the decision of fate."

The declaration of war on the 4th August 1914 was the culmination of ten years of preparation in which the general staffs of all the major combatants had not only completed their own plans for the coming conflict but were also fully aware of the plans of their potential enemies. The fighting men were armed and trained in similar fashions and military thinking was dominated by the writings of Clausewitz with his emphasis upon an early decisive action. The consequences of this are easy to see, at least with hindsight; as neither side was able to obtain a significant advantage both armies rapidly became bogged-down in defensive positions with the front lines only a matter of yards away from each other.

By day the roads and railways were deserted, but as night fell visibility was reduced and troops could be moved into or away from the front and supplies could be brought up from depots established out of the range of enemy artillery. Any attempt to concentrate troops for an attack was clearly visible to the enemy the following day and the difficulty encountered in preparing a surprise attack contributed greatly to the dead-lock on the battlefields of the Western front.

Although the importance of aerial observation had been recognised before the commencement of hostilities there was still considerable doubt as to how it could best be achieved. The hot-air balloon had been recognised as a weapon of war since the middle of the previous century: from a height of only 600 feet the observer had an horizon of up to 28 miles. Observation balloons were brought to their most advanced state by the Germans in the early years of the war. Operating from a position about four miles behind the front line the balloon was immune to enemy artillery and as it was secured to a motor lorry by a strong cable it was stable in winds of up to 50 m.p.h. and could be moved to a new position at will. The balloons available at the start of the war used the relatively inert helium and argon gases and although cheap to produce they could operate at a height of up to 7,000 feet. The observers were highly trained men, the Germans gave their men a six month training course, and they were capable of performing spotter duties for nearby guns in addition to the more routine intelligence work.

The major disadvantage of balloon warfare was that although it provided useful information it did nothing to reduce the enemy's ability to perform aerial observation and therefore it contributed to, rather than reduced, the stalemate on the ground. It was recognised that the ability to penetrate the enemy's air-space was vital in any attempt to interrupt the work of hostile observers and as the airship or "Zeppelin" with its load of hydrogen gas was vulnerable to fire the only possibility was the heavier-than-air machine.

At the beginning of the First World War powered flight was in its infancy; few people had been impressed by the 12 second hop performed by the Wright brothers in 1903 and even the 30 mile flight across the Channel achieved by Bleriot in 1909 did little to reduce the doubts raised about the endurance and reliability of the early aeroplanes.

Early Developments

The major problem encountered by the pioneers of aviation was the high cost and low power of the engines then available. For an aeroplane costing about £1,000 at least £700 would be required for the engine, and spare parts would be both expensive and hard to obtain. As metal was difficult to work with and few light-weight alloys were available most aircraft used a frame made of wood which was then held into the required shape by the addition of high-quality steel wire; this not only gave better resilience but it also meant that repairs could be made quickly and easily using few tools. The skin of the aeroplane was made from unbleached flax linen which was varnished and painted to increase strength and reduce water absorption. In flight the pilot controlled the direction of movement by means of a joystick and rudder bar; these were connected to the rudder and elevators by control wires which ran the length of the fuselage. So fragile were the machines then available that until Pégout demonstrated primitive aerobatics in 1913 it was thought that any pilot who attempted anything other than to fly straight-and-level was taking his life in his hands.

With limited payload and a top speed of less than 70 miles an hour the early aeroplanes were thought unsuitable for bomb-dropping and the field of fire was so restricted as to make arming almost impossible.

Two types of reconnaissance machines were developed; small, fast, single seater scouts for deep and rapid penetration of the enemy positions, and slower, more stable two seaters carrying trained observers, capable of working a primative camera under the most testing of conditions, for more detailed studies of areas of particular interest.

During the first months of the war it was not unknown for the observers in the two-seater scouts to carry an infantry rifle or even grenades but it quickly became apparent that the only weapon suitable for use against enemy aircraft was the machine-gun. With their high rate of fire, reasonable range and penetration the machine-guns then available were mechanically more complicated than the later models and as a result prone to jamming. Needing constant attention it was essential that the guns could be reached easily, especially if it should be necessary to reload whilst in the air. For the single-seater scouts the most obvious location for the machine-gun was immediately in front of the pilot but this was often made impossible because of the propellor. The biplane design made it possible to mount a forward firing machine-gun on the upper wing, set so as to avoid shooting through the propeller, but the majority of the single-seater scouts were of the monoplane design.

The two-seater scouts were of two basic designs; the so-called "pushers" and "tractors". In the "pushers" the engine was behind the pilot and the observer sat in the front. These aircraft were very popular in the Royal Flying Corps as it was very easy to fit a forward firing gun, but the additional weight of the tail made them much slower than the more conventional type. Arming the observer in the "tractor" type of scout, where the pilot sat immediately behind the engine, meant essentially a rear-firing weapon which could be swung around to protect the flanks.

During February 1915 Roland Garros, a French pilot, armed his single-seater Morane monoplane with a machine-gun set to fire through the propeller. He calculated that only 7% of the shots fired would strike the blades and these he planned to deflect by means of wedge-shaped metal plates fitted onto the wooden propeller. Although only an incomplete solution to the problem, it resulted in a 30% loss of efficiency of the propeller. Garros was able to destroy five German aeroplanes within 18 days before being forced to land behind the enemy lines and taken prisoner.

Rather than imitate Garros' device the Germans began to develop their own "fighter" a Fokker monoplane with the machine-gun synchronised to fire through the propeller by means of a system patented by the German aeroplane company LVG in 1913 but which had since been forgotten. Operational by August 1915 the Fokker monoplane was present only in small numbers, each section was allowed one, but it achieved great notoriety in the hands of the German ace Max Immelmann.

It was not until April 1916 that the Royal Flying Corps began to replace their old machines with fighters armed with synchronised machine-guns, the Bristol Scout and the Sopwith 1½ Strutter. The French Morane monoplane with Garros wedges was still in service

and Nieuport fighters with a gun on the upper wing proved so successful that later models mounted synchronised guns.

By September 1916 the British and French had regained air superiority after the brief period of the "Fokker menace" and the war in the air was about to reach a new climax. As the battle of the Somme continued for week after week the German air command began to draw-up plans for the formation of "Jagdstaffeln" or hunting squadrons equipped with fast fighters and manned by pilots of proven ability. Free from reconnaissance duties and able to roam the sky in packs, intercepting any allied planes that crossed over German territory, their effectiveness was increased by the fact that any machines that were only slightly damaged but forced to land were equally lost to the enemy.

In the middle of September Jagdstaffel 2 were re-equipped with 6 of the newly introduced Albatross DI fighters. Within 24 hours this squadron scored 5 victories and as the pilots gained experience with their machines this total was to escalate greatly. The major difference between the tactics of the allies and the Germans was that though the British and French aeroplanes flew in formation for mutual defence they believed that once the fighting began each man was on his own. Jagdstaffel 2 led first by Boelcke and then von Richthofen emphasised teamwork and that it mattered little who scored the kills so long as the squadron was victorious.

The Red Baron

The first really intensive fighting of the war took place in the skies over Arras in April 1917. General Trenchard, commander of the RFC, had 754 aeroplanes, just over half were fighters, and he was opposed by 264 German aircraft of which only 114 were fighters. If numbers were on the allies' side the German machines were undoubtably of superior quality, consisting mainly of the recently up-dated Albatross DIII and the two-seater Halberstadt. The majority of the Britsh aircraft were obsolete "pushers", single seater de Havilland DH2s and two-seater FE2s, but of the new types just beginning to find their way into action the most remarkable were the French Spads and the British SE5s and Bristol Fighters.

On the 5th April No 48 squadron with six of the recently arrived Bristol Fighters began their first patrol over German lines. As they approached the German aerodrome at Douai they were met by five Albatrosses, the leading machine painted a brilliant red. Within half an hour four of the British machines had been destroyed and a fifth had crashed on landing. By the end of the day von Richthofen's squadron, which had at most 6 aeroplanes, had been able to destroy 13 enemy aircraft. On the 7th April von Richthofen with 5 Albatrosses met 6 Nieuports from No. 60 squadron and without any significant damage to the German machines 2 of the British were destroyed and three were very badly damaged. Within a month von Richthofen claimed 30 kills for his red machine and a legend was born.

With out of date equipment and poorly-trained pilots it was the aggressive qualities of the RFC, as much as the superiority of the German fighters which caused the dreadful casualties of early 1917. Only with the introduction of the SE5A could the British compete with the "Flying Circus" assembled by the Red Baron and even then time was required for the pilots to gain experience.

Aerial warfare by the middle of 1917 was far different from that of the previous year. Many of the men whose daring had made them into heroes in the early part of the war lacked the ability to survive in the increasingly professional attitude that now prevailed. Within 7 months von Richthofen's Flying Circus claimed 200 victories, but the reign of the Red Baron finally ended when he was shot down on the 22nd April 1918. The days when a single aircraft could be used for bombing, reconnaissance and fighting were long-gone and if with increasing specialisation the preferred targets were the slower, more-vulnerable bombers and scouts, it was not unknown for two fighters to clash.

The making of an "Ace": Training and performance

Left to their own devices the major powers developed widely differing methods of training new pilots. The French emphasised self-teaching in "penguins", low-powered aircraft with sawn-off wings, before graduating to solo flight in 30 h.p. Bleriots and this experience was supported by lectures in the theory of aviation and practise stripping down engines.

Until the adoption of the Smith-Barry training programme in late 1917 the British pilots were trained with emphasis upon speed rather than quality of product. Initial instruction on machines with dual controls to build-up confidence was followed by solo flying and training was considered complete when the pupil had attained sufficient skill to land without mishap. During the first months of 1917 pilot shortage was so accute that after only 10 hours solo flying the trainee could find himself posted to the front, where only one in five would survive the first twenty missions.

The contrast with the German system could not have been greater. After demonstrating the basic skills German pilots were first sent to two-seater squadrons where they could gain experience under combat conditions and only the best were then selected for training in single-seaters. By the time he was posted to the front the German pilot had a minimum 6 month training period behind him, at least three weeks of which was under the direct supervision of experienced fighter pilots.

The most difficult subject that a new pilot would have to master was aerial gunnery. Firmly mounted on a solid tripod machine guns caused havoc against advancing infantry, but in the air the combination of vibration and the speed at which the target moved greatly reduced the effective range and the time available to aim was almost negligible. Under perfect conditions and in the hands of a good pilot it has been estimated that engine vibration alone caused the bullets to form a cone 30 feet in diameter at 500 yards. Although it was possible to reduce the effect of dispersion by increasing the rate of firing the necessity to work at short ranges greatly emphasised the problem of target movement.

Few people who do not shoot realise the difference between shooting at stationary and moving targets. When the target is immobile it is only necessary to place it in the centre of the sights and provided that they are set correctly for the range a hit should result. When firing at a moving object you do not aim at the target but rather at a point through which the target should pass. The difference between the location of the target and the point of aim is known as the deflection angle.

An accurate assessment of the angle of deflection requires allowance for the target's speed and direction of travel relative to the shooter's position and the effect of gravity upon the bullets will appear to change if shots are fired upwards or downwards. For the majority of pilots the maximum effective range was about 100 yards though a few were known to be able to score hits at four or five times this. The closer the pilot approached the enemy the smaller the cone of fire produced hence the more concentrated the bullets and the greater the damage caused if a hit could be made.

One contemporary source, an experienced pilot, suggested that in aerial combat the average time for which it was possible to make a clear shot at the enemy was about 5 seconds. The difference between an "Ace", the one man in ten or twenty who shot down 5 or more enemy planes, and the others was the ability and luck to hit the enemy whilst giving only a fleeting glimpse of himself.

Few pilots could have matched the economy of the French pilot Fonck when on the 9th May 1918 he shot down 6 Germans with only 52 bullets. Immelmann, during the early stages of the war, reckoned on a killing with every 12 to 25 bullets, but such feats required the pilot to approach to 50 yards or less before opening fire. This was not done to satisfy a strange form of vanity or establish reputations as miraculous shots but in an attempt to reduce the possibility of jamming. The British ace Bishop fired his guns in bursts of 3 shots from ranges as small as 15 yards and expected to bring down a plane with about four bursts.

Even the very best pilots required time to develop their shooting skills; Mannock flew 40 hours during the intense fighting of "Bloody April" 1917 before he scored his first kill whilst Beauchamp-Proctor hit nothing for 5 months. Even after the first victory it took several more to develop the conviction that if you hit the enemy he would fall down, but when success came it could be rapid indeed; Bishop, Collishaw and Mannock all developed from absolute novices to top-scoring aces within one year.

The British ace Albert Ball quickly perfected the art of stalking the enemy at night. With a machine-gun mounted on the upper wing and set to fire almost vertically he would take-up a position about 10 yards below the enemy before opening fire, the skill was in getting into the blind spot without being seen. Ball reasoned that planes in formations

of three or more felt more secure than when flying alone and so would keep a less careful lookout.

Although most of the aces were very good pilots it was not unknown for men of superior flying skill to achieve little or no success at downing enemy aircraft. What really mattered was the ability to predict what the enemy was about to do and to stay with him or get out of the way. Fonck knocked out 32 planes before a single bullet hole was found in his aeroplane, and when in late 1916 McCudden and another pilot were attacked by enemy fighters and chased down from 10,000 feet the ace's plane was not hit but the other was riddled. No greater illustration of the skill of evasion exists than that on the 27th October 1918 when William Barker engaged about 60 German planes, shooting down four, before escaping back to the British lines.

The essence of attack was the dive. From a position of superior height the attacking aircraft built up a reserve of speed that could be used for surprise or, should the initial approach be detected, manoeuvrability. There were two problems associated with this method of attack however, one was to maintain control throughout the dive and so retain sufficient power in reserve to regain the height advantage if necessary and the other was to place the machine in the correct position to shoot at the enemy at the end of the dive.

Against the single-seater scouts with their forward firing guns the ideal position was above and behind for the straight-ahead shot with minimal deflection. For the two-seater aeroplanes with a rear-firing machine-gun the most suitable position was about 100 yards behind and 20 yards below, zig-zagging to present as difficult a target as possible. Evasion was possible, but required split-second timing; too early and the enemy would be able to correct his dive for the changed circumstances, too late and the enemy would be given a clear shot without any chance of hitting back.

Against an attack from above the favoured tactic was a hard, climbing turn with the intention of reversing the positions, attacks from below and behind were met with a dive to the left or right to bring the guns to bear as quickly as possible. "Sideslipping" was a method of avoiding the enemy when there was insufficient time to turn and fight, but it had the disadvantage that height and speed were lost; used properly it could enable the attacked aeroplane to escape downwards but it was an entirely defensive manoeuvre with the sole intention of stopping the enemy from bringing his guns to bear. Diving as a method of evasion suffered from the fact that it would eventually become necessary for the attacked plane to level out and the consequent slowing would present an easy target if the enemy followed him down. By far the most successful method of evasion was the "wing-over" or split-S. This entailed the joystick being pushed forward to enter a dive and the speed created was used to achieve an outside loop with a half roll at the top to return the aeroplane right-side up. The overall result was that with a slight loss of height the aeroplane was now travelling in the opposite direction; first demonstrated by Pégout this manoeuvre became known as the "Immelmann Turn".

Without any means of communication once off the ground, survival was a matter of observation and keeping formation. At a height of more than 1,000 feet there was no apparent motion and the pilot would spend long hours staring into empty space. Keeping concentration was a major problem, but an alert and experienced pilot could identify another aircraft at about a mile.

Flying in tight formation with about 50 yards between pairs of aircraft the less-experienced pilot had to make great efforts just to stay in formation. On his first flight Bishop noted that after every change of direction it would take him two or three minutes to regain his proper place but it has been estimated that 80% of war deaths were caused by becoming separated from the rest of the patrol.

The man in front not only led the flight or squadron into action but he was also its most effective pair of eyes and it was up to him to select a suitable and safe target before launching an attack. Once started the pilot's main fear was of collision with the other members of their flight and as a result little attempt was made to co-ordinate the attack, each man concentrating upon his own particular target. Some pilots preferred to work in pairs with one doing the attacking whilst the other protected his tail, but nothing more complicated was even attempted. There is a tendency to use the term "Dogfight" to describe any action between two or more aircraft, but at the time of the First World War it was restricted to when a minimum of 30 machines were involved. Only then did the aeroplanes used have the necessary slow speed and high manoeuvrability to enable such numbers of friend and foe to mingle nose-to-tail for the time required to shoot each other down. As each pilot tried to latch onto an enemy without allowing his own tail to become exposed, the flight whirled round and round in ever-decreasing circles until the threat of collision or the close proximity of the ground caused everyone to scatter.

The importance of Air Power

Although the importance of air power in the Second World War is undisputed, it is much more difficult to assess the influence of air power in the First World War. For the few with the talent to destroy enemy planes in the air it was the ultimate sport, hunter against hunter, but for the majority of pilots air combat was just part of the job. Nevertheless the role of the fighter was an important one and by June 1918 58% of the aircraft in the newly formed RAF had this function as opposed to 27% two-seater reconnaissance machines and 15% bombers.

The relative unimportance of bombers was a result of both the limited payload and the small size of the bombs available. For the first two years of the war the average bomb was of 20lbs weight and so it required "soft" targets of vital importance. Only with the developement of the 100lb bomb and of aeroplanes powerful enough to carry it did "strategic" bombing become a viable proposition. The first raids against Britain were conducted by Zeppelins in January 1915, but their vulnerability to bad weather and the British air defences caused heavy losses and they ceased late in 1916. German bomber development reached its peak with the creation of the Giant; with three to six engines and a 2,000lb bomb load it was fast enough to avoid the elderly fighters used as interceptors which had caused such havoc against the Zeppelins. The Giant together with the Gotha and even, on occasion, the remaining Zeppelins was responsible for the raids mounted by the Germans in the latter half of 1917 but little damage was actually caused; in the entire war 270 tons of bombs were dropped on the British Isles and they caused 1,414 deaths.

"Tactical" bombing, to support troops on the ground by attacking strongpoints and destroying supply depots, was a task more suited to the light aircraft with their small bomb load, but it required accurate intelligence.

The most important function of fighter aircraft was the destruction of enemy observation balloons prior to and throughout the duration of ground battles. By 1917 the Germans had 170 balloons spaced at two mile intervals along the length of the western front. Protected from the ground by anti-aircraft guns and above by friendly aircraft "Balloon busting" was extremely hazardous, so much so that the British rated a balloon as equal to three enemy aircraft shot down.

Two techniques were available for an attack against a balloon. Many pilots, such as Bishop, flew above the clouds on a compass course for the site to be attacked and then diving as late as possible in order to surprise the ground defences who could, if fore-warned, use a winch to lower the balloon at a rate of 500 yards a minute. An alternative method, favoured by Mannock amongst others, was to attack at dawn or dusk, flying at a height of about 20 feet in order to reduce the effectiveness of anti-aircraft fire, but this was only possible in the tree-less wastes resulting from countless artillery barrages.

Whatever method was chosen great care was taken over the approach route and even the optimal weather conditions. Phtographs of the area would be examined and, if possible, hours could be spent with a telescope looking over the front lines. Even if the pilot was able to make his attack upon the enemy balloon there was no certainty that ignition would take place and in any case the real target was the observer who was far more difficult to replace.

Although it was possible for almost any type of aeroplane to perform reconnaissance duties the importance of this work is best illustrated by the fact that special, high performance, machines were developed and were present in quite large numbers. Immune to enemy fighters as a result of their high ceiling, only cloud cover or poor visibility could bring them down into the danger zone. From a height of 16,000 feet a single exposure on a photographic plate could cover an area of 6 square miles in sufficient detail to detect machine-gun and even barbed wire.

Wargaming: Some suggestions

1. Although there are rules available for this period I would suggest that anyone making up their own allow for about five levels of ability (novice, average, experienced, ace and a high-scoring ace) with perhaps 5 standards of gunnery at each category. After every combat the pilot should be allowed a chance to improve and even attain the highest standard, if he survives long enough.

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2. It may be more fun to attempt the earlier part of the war with the tide of battle swinging to and fro with each development but it is much easier to start in the middle of 1917. At this time the only major mechanical advance was the development of water-cooled linear or V-engines as opposed to the older air-cooled rotary engines. Aeroplanes with rotary engines such as the Sopwith Camel and the Fokker DRI triplane had a great advantage in manoeuvrability, but this was set against a lack of speed. The SE5-A with its water-cooled engine and large wing area required twice the distance to turn that the Camel did, but it had a higher ceiling and was ideally suited for the type of diving attack and rapid disengagement that was increasing in popularity. With aircraft differing greatly in matters of performance the latter stages of the war require the wargamer to accustom himself to the merits of each particular machine if he is to obtain optimum performance.

3. Aerial wargames are made more complicated not only because of the three-dimensional aspect, but also because of the degree of integration with ground forces. The advantage of the First World War is that the involvement of the other services can be ignored, if desired, without any great loss of realism. Anti-aircraft fire was rudimentary and although it could reach 16,000 feet it would only be encountered upon crossing the front line or whilst approaching heavily defended installations or observation balloons. Altogether AA fire did bring down 1,588 allied machines, almost half of them being destroyed in 1918.

. 4. In addition to occasional balloon busting missions the allies mounted "offensive patrols" which penetrated up to 15 miles behind the German front line to attack an enemy aerodrome or railway station and "line patrols" in which, after crossing into enemy-held territory, they continued about 30 miles flying parallel to the front line before returning home. The type of mission to be performed and the forces available could be determined at random as part of an aerial campaign with a map drawn to represent a typical stretch of the front.

References

The First of the Few by Dennis Winter, published by Allen Lane (1982) or Penguin (1983).
The Friendless Sky by Alexander McKee, published by Souvenir Press Ltd. (1962) or Granada (1984).
Winged Warfare by William Bishop, published by Bailey Bros. and Swinfen Ltd. (1975) or Pan (1978).

All of these books are available in paperback, though they may not have been reprinted after the dated given.

The escalating cost of the war in the air

British and German airmen killed in action on the western front from figures compiled by the official air historian H.A. Jones.

	British	German
1915	50	27
1916	357	67
1917	1811	296
1918	2508	662

The Ten Top Scoring Aces of World War I

1.	Manfred Von Richtofen	(German)	80
2.	René Fonck	(French)	75
3.	Edward Mannock	(British)	73
4.	William Bishop	(Canadian)	72
5.	Ernst Udet	(German)	62
6.	Raymond Collishaw	(Canadian)	60
7.	James McCudden	(British)	57
8.	Erich Lowenhardt	(German)	56
9.	A.W. Beauchamp-Proctor	(British)	54
10.	Donald MacLaren	(Canadian)	54