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Jeder der drei Züge werde je von einer Batterie beschossen. Die oben erwähnte Zerstörwahrscheinlichkeit gilt für jedes Ziel in der Feuerfläche. Wir vergleichen die Verluste der Kompanie, falls sie offen oder eingegraben in Stellung geht. Jeder der drei Züge liege vollständig in einem Batteriefeuer.

Bestände bei vollständig ausgebauter Stellung:

Tabelle 9.

	Kein Feuer	Nach Schuß				
		10	50	100	200	500
2 Füs Z Sturmgewehr ..	24	24	23,9	23,7	23,4	22,5
Raketenrohr ...	12	12	11,9	11,9	11,7	11,3
1 BAT Z BAT	4	4	4	3,9	3,8	3,5

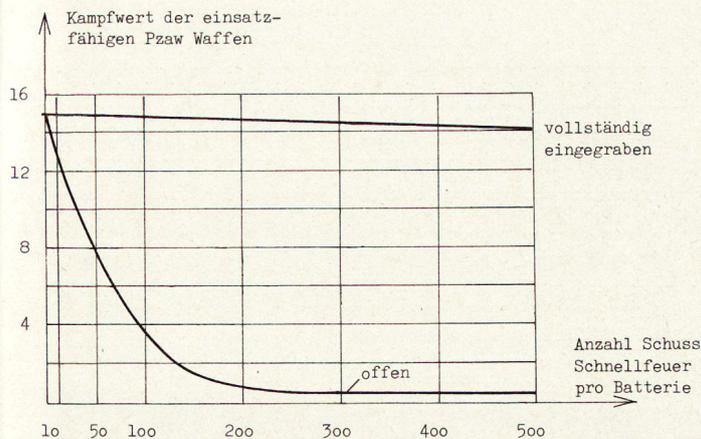
Bestände bei offenen Stellungen (ohne Grabarbeiten):

Tabelle 9a.

	Kein Feuer	Nach Schuß				
		10	50	100	200	500
2 Füs Z Sturmgewehr ..	24	21,2	12,8	6,8	1,9	0,5
Raketenrohr ...	12	10,6	6,4	3,4	1,0	0,2
1 BAT Z BAT	4	3,4	1,9	0,9	0,2	0

Zu diesem Beispiel die Kampfwerte pro Waffe aus der Tabelle 6 eingesetzt:

Figur 7.



Merkmale

Eingraben = Überleben.

Bei Flächenfeuer spielt es keine Rolle, wie nah die einzelnen Geschütze innerhalb der Art Feuerfläche beieinanderliegen. Um die Wirksamkeit der Art zu verkleinern, muß man die Feuerfläche verlassen. Der Abstand zwischen zwei BAT-Halbzügen sollte im Minimum 200 m betragen. (Fortsetzung folgt)

«In der bürgerlichen Gesellschaft herrscht also die Vergangenheit über die Gegenwart, in der kommunistischen die Gegenwart über die Vergangenheit.»

(«Kommunistisches Manifest»)

«Three to One Against»

The Anti tank Defences of the British Army
Colonel Norman Dodd

The principle task of General Juergen Bennecke, the Commander in Chief of Allied Forces Central Region, is to keep his assigned and earmarked forces strong enough to prevent an immediate break through by the forces of the Warsaw Pact. By so doing these forces not only form part of NATO's deterrent but also, should it fail, will be able to delay the onslaught long enough for sense to prevail or the decision made to unleash some of the nuclear weapons.

The backbone of the Warsaw Pact's ground forces are the tank armies and divisions well trained and equipped to carry out a sustained conventional blitzkrieg. The Supreme Commander, SACEUR, General Goodpaster, has stated bluntly that the Warsaw Pact has 14,000 battle tanks against NATO's 5,500 and the disparity on the Central Front is 3 to 1.

It is no wonder therefore that the British Army has spent a great deal of money and time on research to find the most suitable anti tank weapons to use in the British Army of the Rhine.

Armoured Corps personnel the world over have, since the formation of the first tank units in the first World War, considered that the best anti tank weapon is another tank and the Second World War confirmed this view. Tank for tank it still may be true and with the "Chieftain" the British lead the world. It is the most heavily armoured and best-armed tank in service today; the 120 mm gun stabilised in azimuth and elevation packs a tremendous punch. It can hit and destroy any known tank out to 2,000 m; ranged by a 50 inch machine gun it can be laid rapidly on a target using the temperature compensated sights and has a reasonable chance of a first round kill. This, when out-numbered, is of vital importance; in fact it is crucial because to even the odds three enemy tanks must be destroyed for the loss of a "Chieftain". The improved APDS (armour piercing discarding sabot) and HESH (high explosive squash head) ammunition have high kill possibilities at up to 45° impact.

It is certainly a remarkable tank, and if it were available in equal numbers to the possible enemy it could deal with the threat. But this is not so now and never will be. For this reason even the most dedicated tankers agree that it must be supported and assisted by other anti tank systems designed to counter the heavy superiority of the Warsaw Pact numbers. Enemy tanks must be engaged at a greater range than that of a tank gun. Missiles of various types seem to offer the best possibilities and the go-ahead was given to various firms to produce suitable prototypes. They were required to reach out further than the tank gun, to be mobile and sturdy, easy to aim and have a high degree of accuracy and, at the same time, be hard to locate after firing.

Most countries were carrying out similar research and the systems fell into to categories: The Semi Automatic Command to Line of Sight (SACLOS) and the manual with automatic gathering and automatic pilot. The SACLOS system is available in the West in various forms, "Harpon" and HOT from France and the "Shilleleagh" and TOW from the United States. These systems comprise a launcher tube on a tripod, an optical sight, an infra-red sensor and an electrical guidance computer which



Figure 1. "For years Armoured Corps personnel have considered the best anti tank weapon is the tank itself." The British "Chieftain", a world leader.

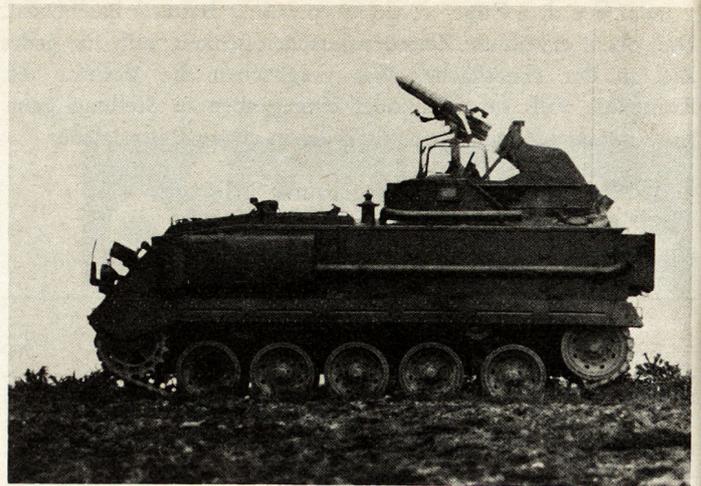


Figure 2. This is the latest and most efficient anti tank system in the army. The British Aircraft Corporation "Swingfire" anti tank missile here shown mounted on an FV438 armoured personnel carrier. It can be fired by remote control if required.

sends the steering commands to the missile as it flies down the infra-red beam. It therefore goes wherever the launcher is pointed. The operator must keep the cross wires of his sight accurately on the target and the sensor in the sight measures the displacement passing it to the computer which sends out the steering signals to the missile. The system should be very accurate but in practice this is not always so because the collimation between sight and sensor is absolutely vital and any inaccuracy will guarantee a miss. An automatic collimation system could overcome this but would be complicated, expensive and hard to maintain. Also infra-red systems can be seriously effected by extraneous heat sources - a burning vehicle for instance. These types of semi-automatic missiles are best at ranges between 500 and 2,000 though it is possible to use a manual override above 2,000 with a consequent loss of accuracy. Below 500 the target can sometimes be engaged if the launcher tube is used as a simple "Bazooka".

This, the British Army felt, was not good enough; it does not guarantee to destroy the enemy tanks beyond the tank gun range. Vital if the odds are to be sufficiently reduced before

the tank to tank battle starts. They therefore turned to the manual system with automatic gathering and automatic pilot. The British Aircraft Corporation's "Swingfire" seemed to meet all the requirements and after extensive trials it was selected.

In this system the operator and be sited aver 50 m from the launcher; after launch the missile is automatically "gathered" into the field of view and has an auto-pilot to give it stability. It is then wire guided to the target by an operator using a control joy stick and it has no collimation problems. The "Swingfire's" rocket motor has a gimboled or moveable exhaust which is used for control. This, combined with the autopilot carried in the missile, makes it both extremely manoeuvrable and easy to control.

The "Swingfire" missile arrives at the unit complete and sealed in its container, this is fitted directly onto the launcher which can be completely enclosed in armour and hidden out of sight of the enemy. It is almost "soldier proof" and can withstand dropping or shaking whereas the semi-automatic system has its Achilles heel in the collimated sight which can be knocked out of alignment.

Figure 3. The British Aircraft Corporation "Vigilant" anti tank guided missile used by the infantry.



Figure 4. "Vigilant" missile controller.

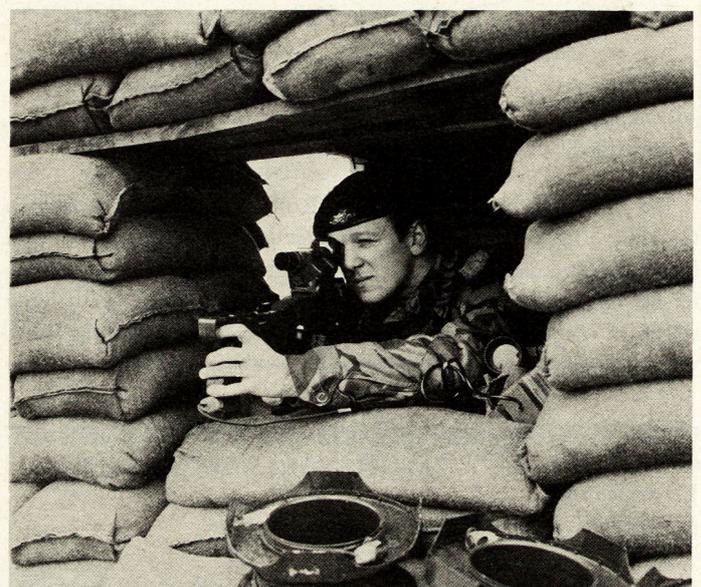




Figure 5. The "Wombat" used by the infantry.

The British experts consider this missile to be the best possible complementary weapon to the 120 mm gun of the "Chieftain" tank and have included six tracked missile carrying Armoured Personnel Carriers of the new FV438 range in the establishment of every armoured regiment serving in Germany.

Each FV438 carries its crew and 15 "Swingfire" missiles which will move in close support of the battle tanks with the task of engaging enemy tanks from a range of 4,000 m hopefully thinning down the assault before it closes to 2,000 m from them on supplementing the tanks. The accuracy of this missile, unlike a gun, does not alter with range and so the chances of a hit at 4,000 m are as good as those at 500 m presuming the target can be seen. This type of missile is also accurate below 500 m should this be necessary. It is for this reason that it is now being developed for use by the infantry as a man carries weapon. It is also to be fitted to the new range of light helicopters - the present light helicopter can carry the French SSII - and on the "Stricker" guided weapons vehicle.

For close in support the British infantry are still using the BAC "Vigilant" wire guided missile, the "Wombat" recoilless gun and the Swedish "Carl Gustav" anti tank weapon. The "Wombat" has a ranging gun which gives a high probability of a first round hit, both this and the "Carl Gustav" are very effective a short range but have the grave disadvantage of a large back blast which immediately gives its position away. The "Vigilant" is light weight and man packed being carried complete in a suitcase type launcher. It can be prepared for firing in a few seconds and produces no flash and very little smoke. The operator can be up to 60 m from the launcher position,



Figure 6. The "Carl Gustav" anti tank weapon.

guidance is by optical line of sight control, the commands being generated by movements of the control cap transmitted to the launcher by wire line. It has a range of 230 to 1,375 m and little training is needed before excellent results are obtained.

Besides being an infantry weapon it is also mounted on the Ferret Scout cars of the Royal Armoured Corps' reconnaissance regiments. Rather ironically it is also used by the Finnish Army on Soviet built GAZ armoured cars!

The Royal Artillery no longer mans any specific anti-tank units as they did in Second World War and for some years afterwards. Their normal field gun is the self-propelled 105 mm "Abbot" which carries a proportion of anti tank ammunition as does the heavier American M09 SP 155 mm gun used by the medium regiments. Both these guns can engage enemy harassing fire with the possibility of doing damage at a much greater range. These guns are not, however primarily anti tank weapons.

One of the classical methods of long range destruction of enemy tanks is by the use of the tactical air force, a method used with tremendous success in the Falaise Gap after the invasion of Europe in Second World War. The 2nd Allied Tactical Air Force in Germany in which the RAF plays a considerable part, has the support of the ground forces much at heart. For this role RAF Germany is presently flying the revolutionary Hawker Siddeley "Harrier" jump jet which has recently come into squadron service and the versatile multiple fighter ground attack and reconnaissance McDonnell Douglas Rolls Royce powered "Phantom FGR Mk 2". They are due to receive next the new Breguet-British Aircraft Corporation "Jaguar" close support fighter which has already proved itself a top class aircraft in its acceptance trials. This will be followed by the Multi Role Combat Aircraft produced by Messerschmitt-Bölkow-Blohm, British Aircraft Corporation and Fiat. A swing wing aircraft on which great hopes are placed. The "Phantoms", "Harriers" and both these advanced aircraft will be able to carry the "Cluster bombs" developed by the RAF for use against tanks as well as the normal rockets and bombs. The cluster bombs on landing spray out a large number of small but powerful anti tank bombs in much the same way as shrapnel was once used against infantry, it is more effective than napalm against groups of enemy tanks.

Regretably the RAF and 2 ATAF are also heavily outnumbered, it is only too likely that the McDonnell "Phantoms" would be needed to assist the BAC "Lightnings" in an air defence role - a task they will assume anyway on arrival of the BAC-Breguet "Jaguar". Although this promises to be a most effective aircraft in the close support role one cannot but

Rüstung und Kriegführung im Burenkrieg 1899 bis 1902

Jürg Meister

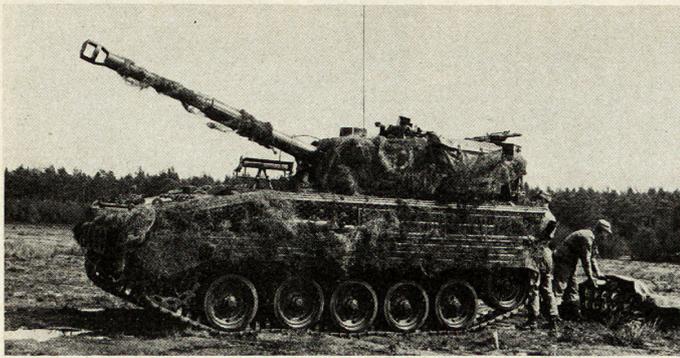


Figure 7. The "Abbot" 105 mm SP gun has an anti tank capability.

wonder how often this, or any other aircraft, will be available for a specific anti tank role.

The Army loyally support the RAF in their view that the first task of the tactical air force is to keep the enemy off the backs of the ground forces by the destruction of air fields, long range interdiction and the breaking up of enemy formations some distance from the battlefield. Close battlefield support is recognised as extremely important and is still a hoped for bonus but most thinking army officers must realise that for anti tank defence in the present environment the ground forces must be self-supporting and the future lies with the missile and rocket. If a surface to surface missile is ever developed which can find and destroy tanks in their forming up areas the tank would lose its predominant position as Queen of the battlefield.

However this is for the distant future; for this decade the British Army has chosen a wide range of weapons from the "Carl Gustav"/"Wombat" type of recoilless systems, the "Vigilant" and "Swingfire" missiles, the tank and artillery shells and the aircraft cluster bombs, missiles and rockets. Of the ground controlled systems the "Swingfire", which by now has all its development "bugs" removed, offers the best hope for the future and goes a long way towards meeting the requirement of reducing the three to one odds in the British sector of the Central Region.

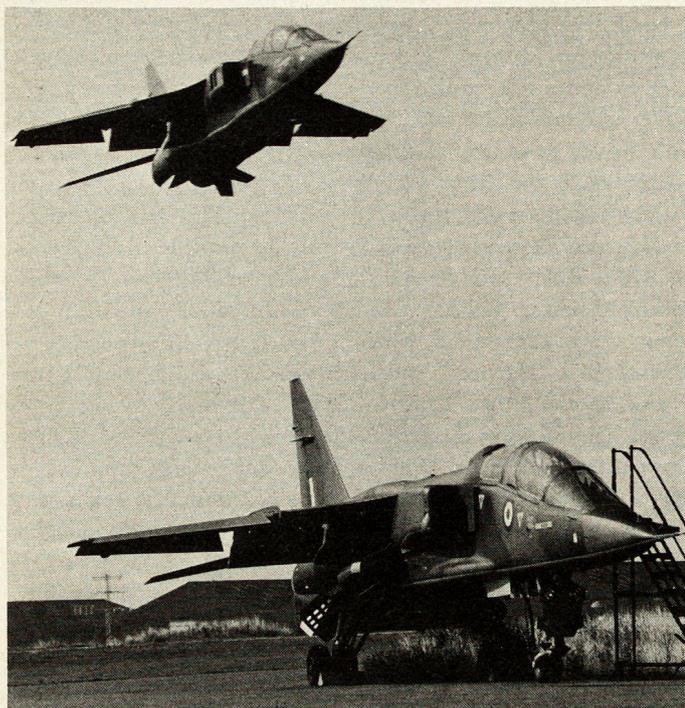


Figure 8. The BAC-Breguet "Jaguar" will come into service as a ground attack a/c.

Wenige Konflikte haben so starke emotionelle Reaktionen ausgelöst wie der Burenkrieg 1899 bis 1902, der spanische Bürgerkrieg 1936 bis 1939 und der Vietnamkrieg; wenige gaben auch so sehr Anlaß zu falschen militärischen Theorien wie der Krieg Englands gegen die Republik Transvaal (Republic of South Africa) und den Oranje-Freistaat.

Die Buren, Abkömmlinge von Holländern, Deutschen und französischen Hugenotten, die sich im 17. Jahrhundert im Auftrag der holländisch-indischen Kompanie am Kap der Guten Hoffnung angesiedelt hatten, zogen es zu Beginn des 19. Jahrhunderts vor, ins damals noch menschenleere Landesinnere zu ziehen, um so dem britischen Einfluß zu entgehen. Dort stießen sie mit den aus dem Norden kommenden Bantustämmen zusammen, die sie 1838 in der Schlacht am Bloodriver schlugen, doch wurden die Buren schon 1845 von den Briten wieder aus Natal und damit von der Küste vertrieben und gerieten bald erneut unter britische Herrschaft. Als die britischen Behörden 1880 einen Burgher in einer Steuerangelegenheit äußerst ungerecht behandelten, brach ein allgemeiner Aufstand aus. Die Buren waren ausgezeichnete berittene Schützen, die zudem das Gelände gut kannten. In einer Reihe taktisch brillanter Gefechte schlugen kleine Burenkommandos numerisch schwache Abteilungen der britischen Armee, so bei Bronkhorst Spruit am 20. Dezember 1880, bei Laing's Nek am 28. Januar 1881 und am 8. Februar bei Ingogo. In der Nacht zum 27. Februar besetzten ein paar hundert Briten unter General Colley überraschend den Majubahügel, von wo aus sie die umliegenden burischen Stellungen zu beherrschen glaubten. Obwohl die Buren über keine Artillerie verfügten, gelang es ihnen noch am gleichen Tag, den Hügel zu stürmen, wobei General Colley und 280 britische Soldaten fielen, verwundet wurden oder in Gefangenschaft gerieten, während die Buren nur 2 Tote und 3 Verwundete verloren. Die belagerte britische Garnison von Potchefstroom kapitulierte am 21. März, aber sechs weitere britische Garnisonen im Transvaal, die von den Buren ebenfalls belagert wurden, konnten infolge Mangels an Artillerie nicht zur Übergabe gezwungen werden. Die Buren konnten zwar ihre geringen Munitionsvorräte dank der gemachten Beute ergänzen, hatten jedoch wenig Aussichten, England erfolgreich Widerstand zu leisten, falls man sich in London zu einem längeren Krieg entschloß.

England verlor jedoch nach diesen an und für sich geringfügigen Niederlagen das Interesse an einer Weiterführung des Krieges und gestand den Buren im Waffenstillstand von O'Neills Cottage und dem folgenden Frieden von Pretoria die Quasi-Unabhängigkeit zu, und schon 3 Jahre später gelang es den zähen Burghern auf dem Verhandlungsweg auch die De-facto-Unabhängigkeit zurückzugewinnen. Der Sieg von Majuba Hill. ist insofern von großer Bedeutung, als es sich um einen der ganz wenigen Fälle der neueren Geschichte handelt, da ein Kleinstaat nicht nur Schlachten oder Gefechte gegen eine Großmacht gewann, sondern damit auch den Krieg politisch erfolgreich beendete.

Als jedoch kurz darauf immer mehr Gold und Diamanten in den Burenrepubliken gefunden wurden, spielte man in London