

*Commentary Article***THE INFLUENCE OF THE *RATEL* INFANTRY FIGHTING VEHICLE ON MOBILE WARFARE IN SOUTHERN AFRICA**

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This article traces the story of how the author and a number of daring young commanders and soldiers had cast aside military textbooks in developing their own military doctrine for mobile warfare, South African style. It is clear that the Ratel infantry fighting vehicle had wielded huge influence on the development and deployment of doctrine for mobile warfare during the 23-year long South African Border War.

The author answers a simple 'yes', to the question raised whether the military doctrine the South African Defence Force (SADF) had devised during the Border War had served its purpose. He furthermore emphasises that significant lessons can be learned from the way the SADF had fought its military campaigns, a statement borne out by various authoritative publications recently circulated.

Introduction

I was there, with other members of the project team on the historic day in 1975 when the first Ratel¹ prototypes rolled off the production line at Sandock-Austral in Boksburg. Forty years later – half the lifespan of the average man or woman – it is still in service of the South African Army as the trusted steed of the country's armed forces. This is no co-incidence.

What we conceived and developed was, and to my mind still is, the best

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vehicle for ultra-mobile African bush warfare ever to be made. Thanks to its swiftness, massive wheels, bush-breaking ability and variety of weapon systems, it reigned supreme on African soil throughout the 1980s. It was as

tough and tenacious as the honey badger, the 'ratel' in Afrikaans, after which it was so aptly named.

As a young mechanised soldier of the SADF, I soon realised that the Ratel six-wheeled armoured fighting vehicle would become the epitome of the long-standing cavalry dictum that strength lies in mobility. That swiftness is an elemental factor of warfare, making up for numbers on the battlefield by the quickness of marches and that an aptitude for warfare is an aptitude for movement.

Knowledge starts with practice

Many good books such as the one on Ratel, soon to be published, offer comprehensive analysis of the SADF's role in the war and the important part such unique military systems played in making the SADF one of the most formidable armed forces of its time – for instance the Ratel and other's such as the 155mm G-5 gun/howitzer, Casspir and Buffel mine-protected vehicles (MPV), Seeker unmanned aerial vehicle (UAV), ZT-3 anti-tank missile and others. These were all home-grown systems, which were soon battle-proven and proved well suited for the conditions of the African battle space.

I am equally thrilled that I could write my own biography² portraying the role I played in that same war and about many other young officers who had made manoeuvre warfare a way of life – a band of daring young commanders and men who cast aside irrelevant military textbooks and developed their own doctrine of mobile warfare, South African style.

To have been able to contribute to the creation of the Ratel and the design of its training and its operational system through the seventies and eighties was a wow experience, to say the least! Likewise was the privilege and honour to could have commanded a first-line fighting unit extraordinaire such as 61 Mechanised Battalion Group (61 Mech) in 1981–82 and to have participated in the many conventional battles that were fought successfully from the early eighties until hostilities ended in 1989.³

There is a relevant question posed many a time about whether the military doctrine we had devised for mobile warfare (more or less 'on the hoof') had served its purpose and whether it could be applied successfully in practice.

Fortunately, I find myself in a position to pronounce my judgement irrevocably. It is a big 'yes', simply explained by the way the SADF fought numerous manoeuvre battles outnumbered and still won.⁴

My statement is borne out by various authoritative publications circulated recently proclaiming that significant lessons can be learned from the way the SADF fought its military campaigns. An American veteran (Robert Goldich) of high standing recently wrote that by –

Reading and studying South African accounts of the 23-year long Border War between South Africa and the Angolan liberation movement UNITA⁵ on the one hand, and the Angolan government and army (FAPLA⁶), supported by large Cuban forces on the other is almost hypnotically compelling ... The tactical and operational lessons from the Border War are mostly variations on usual military themes...solid and relevant training, doctrine, and attitudes; but that the most significant lessons of this conflict for the USA are far broader, and sobering, in nature ...!⁷

For this reason, I am enthralled to see books being published many years after the war by authors such as David Mannall.⁸ *Battle of the Lomba, 1987: The day a South African armoured battalion shattered Angola's last mechanised offensive* is the compelling account by a young crew commander of the battle on the Lomba River in southeast Angola on 3 October 1987. On this day, 61 Mechanised Battalion Group shattered a full Angolan armoured brigade, turning the tide of an overwhelming offensive. Mannall's vivid account of the battle proved to me that he had learned well ... that which he had been taught during training could be applied in practice.

In saying so I cannot but recite the wise words immortalised by Mao Tse-tung in his military writings, namely that –

Knowledge starts with practice, reaches the theoretical phase via practice and then has to return to practice. Practice, knowledge, more practice, more knowledge; the cyclical repetition of this pattern to infinity, and with each cycle the elevation of the content of practice and knowledge to a higher level.⁹

This the SADF had learned the hard way through superb training and successful campaigning!

It goes without saying that the South Africans had learned that fluid conditions are necessary for mobile warfare to flourish, that the answer to superior forces is greater mobility, and that tactical victory is brought about by seizing fleeting opportunities following any ensuing confusion.

Were these wisps of wisdom captured in formal doctrine at the time? Not really. It was however captured adequately in several manuals and standing operating procedures in bits and pieces. The formulation of military doctrine for this new type of mobile warfare only happened many years after the border war had ended. Clearly, what was important at the time of fighting, was that the knowledge became internalised in the minds and spirits of those officers and men who had to stem the revolutionary as well as conventional onslaught.

On emerging military doctrine – train as you fight

It is important to realise that the Ratel was not originally designed for the bush war per se, but to fight alongside armour to protect the territorial integrity of South Africa against any conventional onslaught ... to, when the time comes, “entice a potential conventional enemy into a grand killing area and then to destroy them by means of mobile aggressive action”.

Fortunately, this kind of war foreseen at some stage as part of South Africa’s threat predictions, never happened. Incidentally, there were adequate military doctrines available to cater for this type of military conduct, such as the doctrine called the ‘Conventional Land Battle’. The latter was a derivative from American doctrine and somewhat outdated and would never have sufficed for the kind of bush war we were fighting up north in the 1970s and 1980s.

Fortunately, in the late seventies, the Ratel made its debut just in time to participate in the border war, especially when the clash of arms with our enemies from across the border became extremely serious. Ironically, these six-wheeled armoured fighting vehicles were destined to hold the line until December 1988 when peace came. These fighting stalwarts were required to fulfil the role of wheeled tanks in many of the high-intensity battles fought inside southern Angola, even in fighting heavily outnumbered against enemy tanks such as the Russian T-55. It was only in November 1987 that a squadron of Olifant tanks was introduced during the final phase of Operation Modular to fight alongside the Ratels, to be followed by a second tank squadron in January 1988.¹⁰

The Ratel’s primary role in fighting of this kind was to carry troops swiftly in and out of battle, and it was admirably suited for this purpose because it provided all the required mobility, firepower and armoured protection required for such combat conditions. High mobility combined with flexibility was the essence of this mobile war-fighting game.

The Ratel was not designed with full armour protection against all types of hostile fire – that would have made the hull too heavy and the vehicle too cumbersome. It provided adequate protection from 7,62 mm armour-piercing rounds hitting it from the front, side and rear, and the slanted armour plating in the front could stop a 12,7-mm armour-piercing round. But it was vulnerable to the formidable Russian 20-mm and 23-mm anti-aircraft rounds, which could slice through it from any side. What was really important, however, was that the Ratel could close with enemy formations under own heavy indirect fire support, whilst being protected against own and enemy shrapnel, due to adequate armour protection.

The infantry version's 20-mm quick-firing gun and 7,62-mm co-axially mounted Browning machine-gun provided the capability to lay down sustained fire; to suppress and neutralise or destroy hostile troops, even allowing the destruction of the enemy's light-armoured fighting vehicles during the close-in battle, and to produce high rates of fire to support own forces during firefights. Sustained covering fire was also required to protect and support dismounted infantry and other friendly armoured fighting vehicles, to allow South African troops to move rapidly and more safely during battles – the ultimate aim in offensive operations is always to close with and destroy the enemy. The Ratel's high mobility and long range – 1 000 km at high speed on roads and approximately 600 km across country – made it easier to achieve surprise. Initiative could be fostered and freedom of action could be maintained under the most difficult combat conditions.

All of this formed part and parcel of manoeuvre and fire-and-movement tactics under all weather conditions night and day. Decisive actions as well as sound command and control were enabled by the reliable tactical radio communications installed in the Ratel as a force-multiplying effect. The fighting whole was therefore greater than the sum of its parts.

All of this was possible because the basics had been provided through new doctrine designed at the Infantry School and at I South African Infantry Battalion (1 SAI) in the early seventies. This was initially based on the battle handling of the mechanised infantry section and mechanised infantry platoon and the aide memoirs that went with it.¹¹

The aforementioned doctrine would stand the test of time and was used successfully throughout the border war as a baseline for the design of the standing operating procedures (SOP) of units such as 61 Mech, forthcoming emerging doctrine on mobile warfare and subsequent training curricula. These doctrinal manuals gave commanders the freedom to experiment in the field and to concentrate initially on application rather than on theory.

From these doctrines stemmed the many manuals referred to in a book on the Ratel soon to be published, such as the 61 Mech SOP and the ‘rules for bush manoeuvring’ that I designed for 61 Mech, whilst serving as commander during 1981–82. A provisional doctrine on the conduct of ‘pre-emptive attacks’ was also published by the Army College in 1980. There are many other examples to which one could refer, such as the unique battle formations and attacking methods employed by Commandant Jan Malan for the attack on FAPLA’s 21st Brigade east of Cuito Cuanavale in January 1988. This was based on Malan’s extensive experience as former training officer at 1 SAI and from the time serving as a young sub-unit commander in the field with 61 Mech.¹²

It was in the field and of practical necessity where certain tactical novelties (so well known to our mechanised soldiers) such as the following, were created: command initiative, point of main effort tactics, fire belt action, marching readiness, combat readiness and fire readiness.

What was lacking at the time was doctrine for mobile warfare at the operational level of war within the context of the African battle space. Fortunately, the commanders in the field were well versed in the ‘joint operational planning cycle’ – an amazing planning concept we had learned from the Israeli Defence Force. At the time, this catered adequately for the planning and conduct of mobile operations at the tactical and operational levels of war, such as the operational plan I had designed for the attack on FAPLA’s 16th Brigade on 9 November 1987.¹³ Incidentally, I used Field Marshal Erwin Rommel’s plan for his surprise attack at Gazala in May–June 1942 as a baseline for planning. The planning concept relied heavily on what Rommel had explained in his ‘rules for desert warfare’,¹⁴ namely “One should endeavour to concentrate one’s own forces in space and time, while at the same time seeking to split the opposing forces and to destroy them at different times”.¹⁵

It was from experiences such as the above that I wrote my own book on mobile warfare¹⁶ published in August 1987, just in time for the high-intensity conventional battles then taking place in southeast Angola. All of the latter insights attest that military doctrine is a living subject.

Evolving operational concepts for mobile warfare practiced at units such as 61 Mech were based on manoeuvre and the optimum utilisation of terrain. This formed the core of the emerging military doctrine for mobile warfare, whilst the (general) principles of warfare provided the basis for how battles and campaigns were to be fought. As such, doctrine ensured unity of opinion on the battlefield and the intention to secure or retain the initiative and exercising it aggressively to defeat

the enemy at all times. This approach enabled units such as 61 Mech, 4 South African Infantry Battalion and 32 Battalion to develop opportunities incessantly, which enabled them to shift their main effort swiftly and to take advantage of enemy weaknesses many times during operations.

The military leaders and their soldiers who served at such units played a significant role in formulating, developing and refining the operational concepts and doctrine described above. This particularly referred to the conduct of joint operations, which involved more than one service, such as the army and air force, operating together. This even applied to combined operations later on during Operations Modular, Hooper and Packer when 61 Mech, 4 South African Infantry Battalion and 32 Battalion fought closely intertwined with UNITA to achieve the common operational objectives that were set for them by their respective high commands.

In this unique way, 61 Mech became the combat experimentation centre for doctrinal development not only for the South African Army but also for the South African Defence Force (SADF). More so, it had become a finishing school, which produced outstanding combat leaders for close on four decades. What a sad loss this amazing potential was when on 18 November 2005 the unit was disbanded as an all-arms combat grouping by the newly formed South African National Defence Force (SANDF), which followed on the political changes in South Africa after 27 April 1994.

Did the doctrine for mobile warfare we developed at the Infantry School, at training units such as 1 SAI and operational units, such as 61 Mech, 4 SAI and 32 Battalion, work for us? It sure did for me!

Much more than doctrine – mobile warfare had become a way of life

To the credit of the South African soldiers who operated their war machines under precarious conditions, mobile warfare had become a way of life. They had learned to make winning a habit and that practice makes perfect.

Embedded within the core of these operational concepts, the Ratel became their dream machine, the ultimate tool of their fighting trade.

It became the mainstay of all the conventional and semi-conventional operations fought in Angola, and was a force to be reckoned with. Operating by themselves or in combination with a variety of other lethally effective, locally manufactured weapon systems, the Ratels made it possible for the South Africans to

influence the war and hold the line, even though usually outnumbered by huge margins; and this remained so until peace arrived at the end of December 1988.

It is therefore clear to see why the design of our equipment, the conditioning of our soldiers and dedicated training for mobile warfare were vital to us. In saying this, it is important to understand that the South Africans were extremely well versed in and adapted to mobile warfare and the Ratel was well suited for the job.

Our soldiers were imbued with a will to win, regardless of the odds. One of their secrets lay in the operational concepts and doctrine continuously developed, improved and applied and a unique theory, which embodied mixed mobile, conventional and guerrilla warfare concepts. Of the foremost examples here are 61 Mechanised Battalion Group, 4 South African Infantry Battalion, 32 Battalion, 201 Battalion and 101 Battalion, which at times fought in combination with the formidable guerrilla units of UNITA.

These South African units were commanded by young men who understood the bush-warfare game and excelled at it. I always thought of our small mobile brigade, out on a limb and fighting against overwhelming odds in southeast Angola in 1987 and 1988, as a modern equivalent of General Christiaan de Wet's commando of the Anglo-Boer War days, which is so beautifully described by Thomas Pakenham:

De Wet's commando moved like a hunting cat on the veldt ... It was not a majestic fighting machine, like a British column. It was a fighting animal, all muscle and bone; in one sense, the most professional combatant of the War.¹⁷

Warfare the African Way – trials by fire

The wide, densely covered, sometimes open, spaces of South West Africa-Namibia and Angola suited the exponents of insurgency, guerrilla and conventional-type mobile warfare: for the insurgent and the guerrilla fighter, to evade and to strike at many places, for the exponent of mobile warfare, to manoeuvre through the gaps and to concentrate superior forces at points of decision and to strike quickly when least expected.

Much of the warfare we experienced in Africa was not neat and clean, easily comprehended or linear, with peace and war at the opposite ends of the spectrum. At the blink of a commander's eye one could switch from conventional warfare mode to counterinsurgency and back again – or apply a combination of the two. Therefore, embedded in our operational concepts, within the African context, was the necessity

to wrest the initiative from the enemy, which was achieved through high-mobility operations and deep penetrations behind the enemy's static positions. Many deep operations were launched from temporarily established helicopter bases. These fighting methods were well attuned to the African battle space, and many trials by fire resulted in doctrinal innovations founded on the lessons of the battlefield (to be expounded in the book on the Ratel soon to be published).

The South Africans purposely planned their operations to out-think and outsmart the foe, among other things by means of interesting out-of-the-box innovations which we called 'jackal operations'. This tactical approach basically amounted to the application of whatever type of battle craft and ingenuity would leave the enemy guessing or confused. It was a concept cleverly linked to what the renowned military author Sir BH Liddell Hart referred to as "the strategy of the indirect approach".¹⁸ I defined it for my own satisfaction as follows: 'Attack with strength against weakness, hit the enemy in his centres of gravity, take the enemy from least expected directions, strike deep and ferociously, threaten his lines of communication, rear areas and command centres.'

Another obvious winning factor was that the South Africans and UNITA made much better use of the neutral factors – space, dense vegetation and darkness – than FAPLA and the Cubans did. The dense bush and the night served as mediums for manoeuvring and were carefully utilised to offset a major deficiency in our mechanised land warfare capability, namely the lack of appropriate and adequate anti-aircraft weapon systems, including air fighter assets.

The shroud of the night was used for protection, controlled movement, dispersion and concentration of forces – to mask, to hide and to strike. Offensive mobile operations were the means by which to achieve this aim. It was also the main method of preserving one's own force and avoiding getting caught in any position where one was vulnerable to set-piece attack or destruction in detail by enemy fire. This was very important to the South Africans, as we were not prepared to sacrifice lives in futile exercises; blood was definitely not the price of victory.

Tactics that suited the requirements of the South Africans within this particular operational sphere were applied as far as possible. These practices had to be stretched at times, and in 1987 to 1988, at Cuito Cuanavale, they were forfeited to some extent. Some of these characteristics were:¹⁹

- Ground was held only while it afforded a tactical advantage. When stationary for short durations, combat groupings leaguered in hides where all-round defence was possible. The artillery operated from well-camouflaged battery firing positions. Units such as 61 Mech and 32

Battalion were never stationary for very long and also operated from well-concealed hides. When stationary for short periods, troops dug shallow slit trenches for protection against possible enemy air attack and ground and artillery fire. Combat was offensive by nature.

- Manoeuvring was characterised by constant movement, controlled concentration and dispersion of forces – hiding, camouflaging and planning; then purposefully moving once again. It was a process of continuous operational assessment, intelligence gathering and quick decision-making, and of being constantly aware of the situation. It was crucially important to know yourself, know your enemy and know where they were all the time. Excellent timing was another essential requirement.
- The battle sequence constantly applied was to see (or sense), decide and then act, but quickly, so as not to allow the foe the latitude and privilege of quality thinking, timely response and sensible engagement.

To encapsulate the aforementioned tactics: some of the SADF's manoeuvre warfare concepts were rooted in values which were embedded in our subconscious minds and became second nature to us: Make the battlefield fluid; strike deep; exploit your night-combat capability; use mobility and firepower to the fullest; keep on winning, notwithstanding the odds, because there is no alternative.

Lessons to be learned from our fighting in Southern Africa

I believe that many valuable lessons could be learned from the South African Border War and those documented in the book on the Ratel, soon to be published. These are lessons which provide umpteen wisps of wisdom to be considered by those who are currently involved in the dilemma of fourth-generation warfare²⁰ across the globe in places such as Africa and the Middle East.

One of the important lessons stemming from the South African experience is that one can emerge successfully from a protracted counter-revolutionary vis-à-vis revolutionary war by employing similar tactics and strategies as your adversaries by taking the war to the enemy – even by prolonging the agony and investing in fighting over time as we did in southern Africa.

As such, the South African Border War and the war in Angola in particular, could be widely used as a benchmark for the study of not only contemporary warfare, but future warfare as well. For instance, it was an armed struggle which typically evolved into a transnational conflict over time and which brought about all

the imaginable political, diplomatic, military and social ramifications and complexities of war in Africa.

More so, this war included low- as well as high-intensity engagements across the full spectrum of warfare, playing out within a vast geographical expanse over an extended period of time – all elements and events resulting in valuable lessons from which to learn.

It is also significant to realise that southern Africa served as a leading laboratory for counterinsurgency warfare at the time. In recent years, much has been written on insurgency and counterinsurgency from American and British perspectives, but as Dr Michael Evans of the Australian Defence College, Canberra, observes, “Only a quarter ago, the Southern African region was one of the world’s leading laboratories for the theory and practice of counterinsurgency.”²¹ Evans upholds that much can be learned from this by scholars of strategic studies and by military practitioners.

John W Turner, who wrote on insurgency wars in Africa, furthermore remarks, “it is unfortunate that many lessons learned by the South Africans in the course of their counterinsurgency effort still remain relatively little-known”.²² Turner proclaims –

the counterinsurgency war by the South African Defence Force (SADF) against the South West People’s Organisation (SWAPO) in northern SWA (also called Namibia) in 1966–1989 is the only case of a clear-cut victory by security forces against a communist-backed insurgency with considerably foreign support based in supposedly invulnerable positions across the Angolan border.

And so one could carry on endlessly with the lessons to be learned from skirmishing in the far south, as Sun Tzu, 500 BC so aptly states, “Know yourself and know your enemy, otherwise you will succumb in every battle”.²³ So be it!

Amongst others, what one would be able to ascertain from reading the forthcoming book on the magnificent Ratel is that the causes and effects and intended and unintended consequences of war and politics make for fascinating reading!

Endnotes

¹ These six-wheeled armoured fighting vehicles were designed and manufactured in South Africa at a time when the country was being subjected to virtually

total economic, political and military embargoes in the seventies and eighties. Ratels were employed in action in southern Angola for the first time in 1978.

- ² De Vries, R. *Eye of the firestorm*. Cape Town: Naledi, 2013.
- ³ Wikipedia. "Roland de Vries". <https://en.wikipedia.org/wiki/Roland_de_Vries> Accessed on 29 October 2015.
- ⁴ Scholtz, L. *The SADF in the Border War 1966–1989*. Cape Town: Tafelberg, 2013, 247.
- ⁵ The National Union for the Total Independence of Angola (União Nacional para a Independência Total de Angola) was the second-largest political party in Angola, founded in 1966. UNITA fought with the People's Movement for the Liberation of Angola (MPLA) in the Angolan War for Independence (1961–1975) and then against the MPLA in the ensuing civil war (1975–2002).
- ⁶ The Forças Armadas Populares de Libertação de Angola was originally the armed wing of the MPLA, but later became the country's official armed forces when the MPLA took control of the government in 1975. The MPLA was a political party that has ruled Angola since the country's independence from Portugal in 1975. The MPLA fought against the Portuguese army in the Angolan War of Independence of 1961–74 and defeated UNITA and the FNLA in the decolonisation conflict of 1974–75 and the Angolan Civil War of 1975–2002.
- ⁷ Goldich, R. "An unknown war in the far south of the world – South African accounts of the Border War, 1966–1989." <<http://foreignpolicy.com/2015/03/12/annals-of-wars-we-dont-know-about-the-south-african-border-war-of-1966-1989/>> Accessed on 29 October 2015
- ⁸ Mannall, D. *Battle of the Lomba, 1987: The day a South African armoured battalion shattered Angola's last mechanised offensive*. Solihull: Helion, 2014. This particular military campaign transpired during what the SADF referred to as Operation Modular.
- ⁹ De Vries, R. *Mobiele oorlogvoering – 'n perspektief vir Suider Afrika. [Mobile warfare – a perspective for Southern Africa]*. Menlopark: FJN Harman, 1987, 173.
- ¹⁰ De Vries, *Eye of the firestorm op. cit.*, pp. 107, 668.
- ¹¹ Such as "Die Gemeganiseerde Peloton in die Geveg" (The Mechanised Infantry Platoon in Battle) and others (of which much will be written in the book on Ratel).
- ¹² Scholtz *op. cit.*, p. 323.

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- ¹³ De Vries, *Eye of the firestorm op. cit.*, p. 654.
- ¹⁴ Liddell Hart, BH. *The Rommel papers*. Library of Congress, Catalog Card No 53-5656, 1953, 197.
- ¹⁵ De Vries *Mobiele oorlogvoering ... op. cit.*, p. 52.
- ¹⁶ *Ibid.*
- ¹⁷ Pakenham, T. *The Boer War*. Johannesburg: Jonathan Ball, 1981.
- ¹⁸ Liddell Hart, BH. *Strategy*. London: Faber and Faber, 1967.
- ¹⁹ De Vries, *Eye of the firestorm op. cit.*, p. 204.
- ²⁰ Also referred to as 'asymmetrical warfare' – warfare in which opposing groups or nations have unequal military resources, and the weaker opponent uses unconventional weapons and tactics, such as terrorism, to exploit the vulnerabilities of the enemy.
- ²¹ Evans, M. *South Africa and contemporary counterinsurgency: Roots, practices, prospects*. Claremont: UCT Press, 2010.
- ²² Turner, WJ. *Continent ablaze: The insurgency wars in Africa 1960 to the present*. Johannesburg: Jonathan Ball, 1998, 34.
- ²³ Hanzhang, T. *Sun Tzu's art of war: The modern Chinese interpretation* (Shibing, Y, trans). New York: Sterling, 2007, 36.