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The Toyota Horde: Examining a Lost Cost Military Capability

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The subject of this article is a broad technical and operational examination of how almost any country on earth can currently gain a viable level of military power by building on the enduring elements of combined arms warfare. These elements are enduring and appeared in the first twenty years of the twentieth century. It is further suggested that skillfully applied this type of capability may enable its user to confront and possibly defeat NATO type expeditionary forces.

A number of popular opinions about the future nature of warfare have created a substantially misleading impression that the skills and equipment required for formation level combined arms capability, such as that possessed by NATO during the cold war is no longer needed, because few potential enemies possess similar peer capability. Thus the object of the article is to show just how simply a peer or near-peer capability can be acquired, and maintained.

Contrary to popular belief, there are many examples of where military action by irregular forces has inflicted battlefield defeats on regular forces. The most famous are the Boer defeats of the British Army during “Black Week” in December 1899 and the Hussite Wars of the 15th Century, where irregular forces, using improvised barricades made of ox wagons (wagenburgs) were able to stand against and defeat the armoured knights of the Holy Roman Empire. In both cases each irregular force was able to generate conventional military force from fairly meager resources. There is nothing novel, new or even complex, in this approach. It is common, enduring and proven.

Combined Arms Armour Threat

Very few nations can develop and maintain effective armoured forces. While many may possess armour, there is little evidence to suggest they are effective. Even large numbers of BMP-1/2s and T-72s should pose little threat to any competent army and with effective air superiority or even parity.

Even relatively cheap and simple AFVs such as those mentioned come with a considerable cost attached to training and maintenance. Good gunnery training is expensive as are unit level training exercises; especially those associated with live firing. What is more, only nations that have possessed and used effective combined arms formations for a useful period of time are likely to possess the level capabilities required. At best, most countries aim for a regional capability relevant to their neighbours. If a country perceives a threat from a US and/or UN

sanctioned coalition then there is virtually no chance of matching the regular military capability that may be arrayed against you. The standing armies of Serbia and Iraq stand testament to this. Modern air defence systems are also expensive and to date, have proved to have very limited abilities to provide the levels of capability claimed and/or required. Since 1945, conflicts in South East Asia and the Middle East show that air forces adapt, either by tactics or counter-measures to the new air defence threat relatively quickly and as such they usually prevent enemy air defence systems from constraining their freedom of action. Syria's possessions of relatively advanced air defence systems seem appear to have posed little problem to Israel's bombing of their nuclear facilities. This is not to say that advances such as passive radar, high speed data networks and electro-optic guidance might not make even legacy air defence systems greatly more effective. If they do, this merely compounds the problem, rather than presenting a new one.

However, given all this, it is grossly simplistic to use this reasoning to suggest all future threats will some be forms of "fourth generation asymmetric hybrid insurgency." There is simply no evidence that all, or even most, warfare has or will progress in the direction of the poorly defined phenomena described using the simplistic and lazy form of words common to such discussion.

To date we have seen no evidence that the enduring norms of military power have been altered by so-called globalisation or the information age. Warfare is not changing in any way we cannot comprehend, unless we chose to be willfully stupid. Anyone confused or challenged by current conditions in warfare, probably has no place commenting upon it. Warfare has always been complex and has always demanded skill and determination.

Almost every nation state on earth has a standing army. The purpose and nature of war has not changed in 3,000 years of recorded history. The forms of warfare (as opposed to war) we see today are not new. The vast majorities of weapons in use are many decades old and only appear novel to those who have failed to study military history in a context wider than that of the US Civil War, and World War 2.

Nations, groups and societies need armies, or armed forces, to create or preserve the political outcomes they desire. To assume conventional military power is only tied to possessing large numbers of armoured fighting vehicles or jet fighters is simplistic and wrong as North Vietnam and Korea showed in two conflicts. Freed from those constraints, and accepting and adapting to the realities of other constraints, one can produce alternative forms of expressing military power.

What follows is but one possible example.

Bargain Bin Warfare?

A modern 4-wheel drive vehicle, such as the Toyota Hilux, provides basic function mobility for millions of people in the developing world. Not surprisingly many recent conflicts have seen these vehicles turned into weapons and personnel carriers. However it is not just the developing world. Until very recently, many US units employed the HMMWV in the same roles. UK forces employed armed Land Rovers in both Iraq and Afghanistan and Iraq and only recently added low levels of armour. Such vehicles can easily carry 4-6 men with light weapons, such as PKM and

RPGs plus water, rations and communications gear. Functionally and doctrinally there is no difference between a TOW-armed HMMWV and a Toyota Hilux with an AT-4/7/14 ATGM.

This basic paradigm can be extrapolated across a number of weapons systems such as heavy machine guns, recoilless rifles, and medium mortars (to be used dismounted). Simple but effective low level air defence can be provided by a number of MANPAD systems and heavy machine guns.

It is a very small step up from that, to a medium truck with a reasonable level of cross country mobility and a 5,000kg payload. Such vehicles are extremely common in the third world. Not only can they transport larger numbers of men, and logistic support, but they can also carry heavier and more effective weapons systems such as mounted mortars, MRL launch systems and 23mm cannon for low level air defence.

A very large number of nations could field a force, of some 30,000 men comprising a mix 6-9,000 vehicle of the type described. Such a force may possess 7-800 ATGMs, and a similar number of MANPADs, as well as 500 truck mounted 122mm MRL systems, similar or identical, to the Soviet BM-21 system. This is a combined arms formation with infantry, artillery, and low-level air defence. For the purpose of the discussion to follow such a force will be referred to as 4WT.

Obviously such a force, if neatly arrayed in some arid desert, and confronted by an Armoured Cavalry Brigade of the US Army, with the commensurate levels of attack helicopters, and close air support would not last long if it could be easily identified and engaged at standoff ranges. Change the terrain to an area with more cover and disperse such a force over a wide area on ground of their own choosing and the challenge might be increased. Train that force into a determined, skilled, and aggressive formation and optimised to fight within their limited equipment capabilities and the challenge may be substantial.

This article does not intend to describe the details of such an enemy formation because it is irrelevant to the collection of problems it indicates. The major problem is that some armies still spend a lot of their time training to fight a Russian equipped motor rifle brigade based on the data free opinion that this represents the greatest possible threat. A lot of this belief is based on 40 years of faulty popular Western analysis of Soviet conventional combined arms capabilities. Based on what has become obvious since the end of the Cold War the machines were not that good and nor was the manpower, the doctrine, logistics, the use of intelligence and/or the command and leadership of such equipped units.

All the 4WT vehicle types used in this example are commercial and widely available. They are easy and simple to maintain. Losses can be quickly replaced either from stocks or requisitioning and their logistic footprint is extremely small compared to an armoured formation. For example, fuel consumption might be as much as 25-65% less. Such a formation has the ability to conduct quick long cross country moves, and it's worth remembering how much terrain is accessible to light or heavy trucks, especially as almost no significant town, or even village, on the planet is not accessible to such vehicles. Vehicles such as "Up Line" (West Africa) and "Jinga" (South Asia) trucks are often essential to developing world economies. It is also worth noting that

NATO logistics systems are entirely dependent on MLC classified routes. 4WT suffers no such restriction. What is more, it is fairly easy for a 4WT commander to predict which routes an enemy formation would require.

Even the two most sophisticated weapons systems specified, the ATGMs and MANPADs, are cheap and readily available to almost any state or state supported entity. A number of the older and more conventional weapons systems can be made substantially more effective by simple applications of new technology. For example the 73mm SPG-9 can employ a simple laser range finder, greatly aiding its long-range effectiveness. GPS equipment and surveying can make MRL and mortar attacks much more effective. Relatively simple night sights and equally simple voice communications using low levels of encryption at the tactical level are commonly available from a large number of sources. Longer range digital HF or commercial satellite phones using high-grade laptop based encryption systems are not hard to obtain, given even a relatively small military budget.

It again must be stressed that none of the equipment mentioned so far requires any development, or a particularly large budget to acquire. However, it must be conceded that training is required. If evidence is needed it is worth comparing the skill with which Egyptian troops employed wire-guided ATGMs in 1973 and the very poor level of accuracy shown by Hezbollah in 2006.

Despite the many hundred rounds fired IDF figures released in 2006 indicate Hezbollah only damaged about 52 IDF AFVs (less than 12% of the total committed) with ATGMs or RPGs despite the many hundreds fired. Of these only 27 had their armour perforated resulting in 22 deaths. Mines and IEDs caused another 12 deaths within AFVs.

Based on that poor performance there is ample evidence that Hezbollah did not know how to correctly site or employ ATGMs based both on lack of experience and on the differing characteristics of the guidance systems involved.

Lastly the issue of large calibre SSMs needs to be considered. This type of weapon encompasses a range from the 300mm artillery rocket up to the generic SCUD type weapon. The problem with traditional SCUDs is that they are liquid-fuelled, complex, unreliable and inaccurate. Today's modern iterations, such as the Shahab-3 may exist in solid fuel versions and be highly reliable and accurate. GPS survey equipment and electro-optic guidance make a CEP of 50-20m, after a 300km flight, both possible and probable. For example, hitting large vessels at anchor is not a challenge, at least in theory. Even the smaller calibre rockets can dispense sub munitions so the issue of high accuracy is not really an issue. Procuring weapons of either type is also far from impossible for either state or state sponsored organisations. These weapons can be fired either from mobile launchers or easily concealed fixed sites.

Employment and applications

The operational effectiveness of such a force would be entirely the product of the skill training and determination the force possessed as well as the political strategy its action was geared to support.

High operational mobility, low logistic footprint, and a concept of operations that views vehicles as almost a consumable does in and of itself present a considerable challenge since enemy commanders will have a noticeably different view of what represents risk in comparison to our own. Losing vehicles is less important than causing casualties in line with overall aim of denying the enemy's political goals, such as those that may be sought by western expeditionary armed forces.

Unlike the Soviet Motor Rifle Regiment, and the Chinese Armoured Brigade, there are no tabulated organisational tables and years of minutely analysed tactical and operational doctrine. Nor should we be tempted to invent them. We are unlikely to usefully replicate the insights those unencumbered by a military staff college education might actually have. Nuances associated with the cultural and political acceptance of risk as well as that of casualties may further skew our understanding away from the reality the potential enemy commander sees. The attacks of September the 11th 2001 required little in the way of planning and funding. What made it possible was the imagination and determination of those prepared to do it. Land warfare is not exempt from that simple dynamic.

However, it is worth noting some unique aspects of a 4WT formation compared to those using more conventional equipment. Bearing in mind the quite limited nature of most of the equipment, we can broadly suggest the actions and effects that the formation might seek to achieve. The force to space ratio in which a 4WT formation may be employed presents two problems. While most armies are getting smaller they are not necessarily more mobile and the planet earth remains the same size. The first major problem is that of a persistent wide area surveillance that would be able to detect and interdict either 4WT dismounted infantry infiltration or quick vehicle moves between pre-planned hide areas. This is extremely hard to conduct and sustain. It is relatively simple for a group of 30-40 vehicles to break cover from a forested or urban area and move as little as 5-10km to another such area. Such moves may be conducted at night or in bad weather. They would almost always be conducted with little or no warning. They may be supported and assisted by lightly equipped infantry, who may infiltrate forward up to 25km in one night, surveying and preparing such sites. Conducted over a frontage of some 100km this kind of activity might be nearly impossible to detect, especially if the vehicles were largely disguised as civilian vehicles (which they in fact are!) and intermingled with normal civilian traffic. Technologies such as the Ground Moving Target Indicator and Synthetic Aperture Radars are greatly reduced in utility when the enemy lacks any definable signature. In very real terms the problem is that while it might take 20 minutes to identify and destroy 4 pickup trucks hiding in a farm complex another 30 vehicles might move 15km between built up areas and disappear.

That indicates the second problem, which is that by virtue of fairly small incremental moves across a wide front a 4WT force might possess a very useful offensive capability. While actually attacking and defeating a NATO type formation might not be worth the effort or even operationally feasible, merely inflicting high levels of casualties may be as well as interdicting MSRs. It would also be possible to use a 4WT force to overrun large areas of lightly or undefended terrain due to the low force densities. Essentially, if you are not there in sufficient numbers to stop them 4WT forces will probably get there and make it very hard for an opposing force to move through an area or clear the 4WT out.

4WT forces may also be relatively easy to deploy over very long distances, either by virtue of normal road marches or by the fact they can be moved very simply by sea and air. Almost any wide body commercial airliner can accommodate from 2-400 men all armed with assault rifles and RPGs. Many more can be moved, if they can tolerate merely sitting on mattresses on the floor. Civilian cargo or container ships could transport and land even greater numbers of both men and equipment. This is not to suggest surprise invasion scenarios, but rather how easily a relatively large number of men and 4WT type equipments might be infiltrated into an area over a comparatively short time. This may be significant if a state sought to support an armed group in another country. It might also mean significantly sized forces suddenly appearing almost anywhere in theatre with little or no warning. It is worth considering a situation akin to that which occurred preceding the Grenada or Panama invasions where a significant military force from a distant power may suddenly appear.

In an environment where attacks may be frequent and from any direction NATO forces may well want to concentrate rather than disperse. In sharp contrast to 4WT the large numbers of AFVs possessed by NATO type forces would be extremely easy to detect. Their location could easily be reported via cell, satellite, landline or even the Internet. Enemy reconnaissance may well be unarmed, indistinguishable from civilians and/or move with refugees.

Once forces have been located they could be subject to indirect fire from mortars and/or MRLs. Using GPS survey and locating it is comparatively easy to for as few as six, widely dispersed vehicles to deliver 240 rockets into a 400x400m area in less than a minute. Combined MANPAD and ZPU/ZSU defensive zones may challenge any helicopter force. The damage inflicted to date on aircraft in Iraq should be indicative of the potential size of the problem.

Fortified Regions

4WT formations may conduct operations in a wide area sustained by heavily defended base areas. It is also highly possible for a 4WT threat to dig in and simply seek to inflict the casualties inherent to the effort required to dislodge them. Unlike the mobile conduct of 4WT operations the tactical doctrine for fortified regions resides in the Soviet concept of the same name. Machine Gun Artillery Brigades were formed to establish fortified regions during the Second World War. They were a logical extrapolation of the observations made in Soviet Field regulations as far back as 1929. There is some considerable evidence that based on Japanese doctrine from WW2 North Korea has usefully refined this approach and this is what Hezbollah attempted to replicate, for the most part unsuccessfully, in its war with Israel in 2006. Operations conducted in a fortified region would present a series of prepared anti-personnel/amour/helicopter ambushes, minefields, IEDs, and interlocking strong points which would be extremely hard to detect until engaged. It should be noted that today's ISTAR assets would not detect the vast majority of the Japanese defence on Iwo-Jima. Troops there were protected from bombardment by deep gallery systems similar to those used by the German Army in WW1. Correctly constructed they are immune to attack by 155mm munitions. 203mm (8-inch) is no longer a concern, as it has been withdrawn from service despite the clear requirement for it to remain. Deep gallery systems can be so extensive that merely striking one identified part with a deep penetrating PGM, may not have decisive effect. Dependant on soil and rock conditions, commercial construction techniques

and tools can be used to construct man-sized tunnels at a rate of 5-15m per day. Given 6 months of deteriorating political circumstances, almost any nation can create extensive well-hidden and highly effective fortifications.

The purpose of a fortified region is not to block the enemy advance but to conduct a gradual attrition of any formation attempting to move through it, and then attack the logistic forces following on. Contrary to popular belief, the fortified region does not have to set the enemy up for an armoured counter-stroke. It merely has to bleed the enemy white. Manoeuvre Warfare doctrine taught its exponents to seek gaps and avoid resistance. In a fortified region defence the “gaps” are merely the entrances to kill zones. Conducting operations in a fortified region requires considerable preparation, especially in terms of logistics.

Obsolete military equipment, such as T-55s, 62s and 72s, can be put to good use as fixed emplacement. A dug-in BMP-1 turret can be easily concealed and uncovered and ready for action and it is hard to detect at over 100m. It can also be remarkably effective given a static location and engaging targets at known ranges, based on a fairly simple survey. It can also have some additional armour welded to it without impairing its operation. Small domestic generators and even truck batteries can power dug in turret systems.

The enemy is also usefully enabled by its opponent’s Rules of Engagement and the weapons restrictions now common in NATO. The enemy does not have to worry about attack by chemical weapons, as their use is prohibited. For example CS gas cannot be used in clearing bunkers or deep gallery systems. They need have little concern over the use of either anti-personnel mines or air dropped sub munitions, as the employment of both types of weapons are either prohibited or require high level “hard to get” political consent for their use by most Western forces.

Lacking any clearly identifiable military equipment the 4WT force also has the additional propaganda advantage of showing NATO forces as using disproportionate or illegitimate force against “civilian vehicles.”

Be not afraid?

It’s no good training to fight a lone skilled samurai when you lack the skill and understanding to combat five angry women with domestic steak knives. None of what has been suggested here is impossible, improbable, or far-fetched. Even if you think it might be, the 911 attack should indicate that there may be some merit in thinking through the art of the possible. All swans were white until black swans were discovered in Australia. This is the military power a relatively small budget, good simple training and a large 16-45 year old pool manpower can get you almost anywhere on the planet today. Its combat power is defined by the Clausewitzian imperative to gain the political outcome the military operation is predicate on achieving. Thus the conditions and circumstances of its employment are critical. Additionally, it does not require all the vehicles and manpower to return to base to conduct the victory parade. Politically they may just aim to deny you a reason to conduct or victory parade or declare, “mission accomplished.”

4WT is not a Hybrid threat, nor is it useful to describe it was such. It’s just a simple, cheap, and easily achievable military capability. It makes no difference if it’s in the hands of the Peoples

Liberation Army of China, a Texas militia or a Middle Eastern irregular group. It might be a small 500-man unit or a corps sized 100,000-man sized force.

Fighting such a capability requires combat skill in formation level combined arms warfare. Combat operations may or may not occur within or close to a civilian population. 4WT forces may or may not use suicide bombers. As they don't currently exist we cannot tell, but almost all the equipment capability has existed for well over 30 years, and the operational and tactical doctrine to employ it is almost timeless. To be deliberately challenging, if any officer reading this cannot conceive of ways to inflict significant damage to a Stryker Brigade, or Armoured Cavalry Squadron; given 100 SUVs, 100 x ATGM + MANPADS and maybe 500 men; then they probably have no place in their chosen profession. Since 911 the US, UK and NATO have been extremely lucky to encounter the almost child-like tactical and operational skill possessed by either Iraqi regulars or the Afghan and Iraqi insurgents. It is extremely dangerous to assume that this level of skill-free performance will persist. It would also be wrong to assume that the levels of skill that triumphed in 1991, for example, would be of the required standard to be successful again. We cannot predict the future, but hopefully this article has demonstrated the extreme negligence of assuming that tomorrow's most dangerous threat is the poorly defined insurgent of popular fascination. He is not and never should have been.

William F Owen is British and was born in Singapore in 1963. Privately educated, he joined the Army in 1981, and served in both regular and territorial units until resigning in 1993 to work on defense and advisory projects in Kuwait, Taiwan, Algeria, the Philippines, and Sierra Leone. An accomplished glider, fixed wing and helicopter pilot, he works as a writer, broadcaster and defence analyst.

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