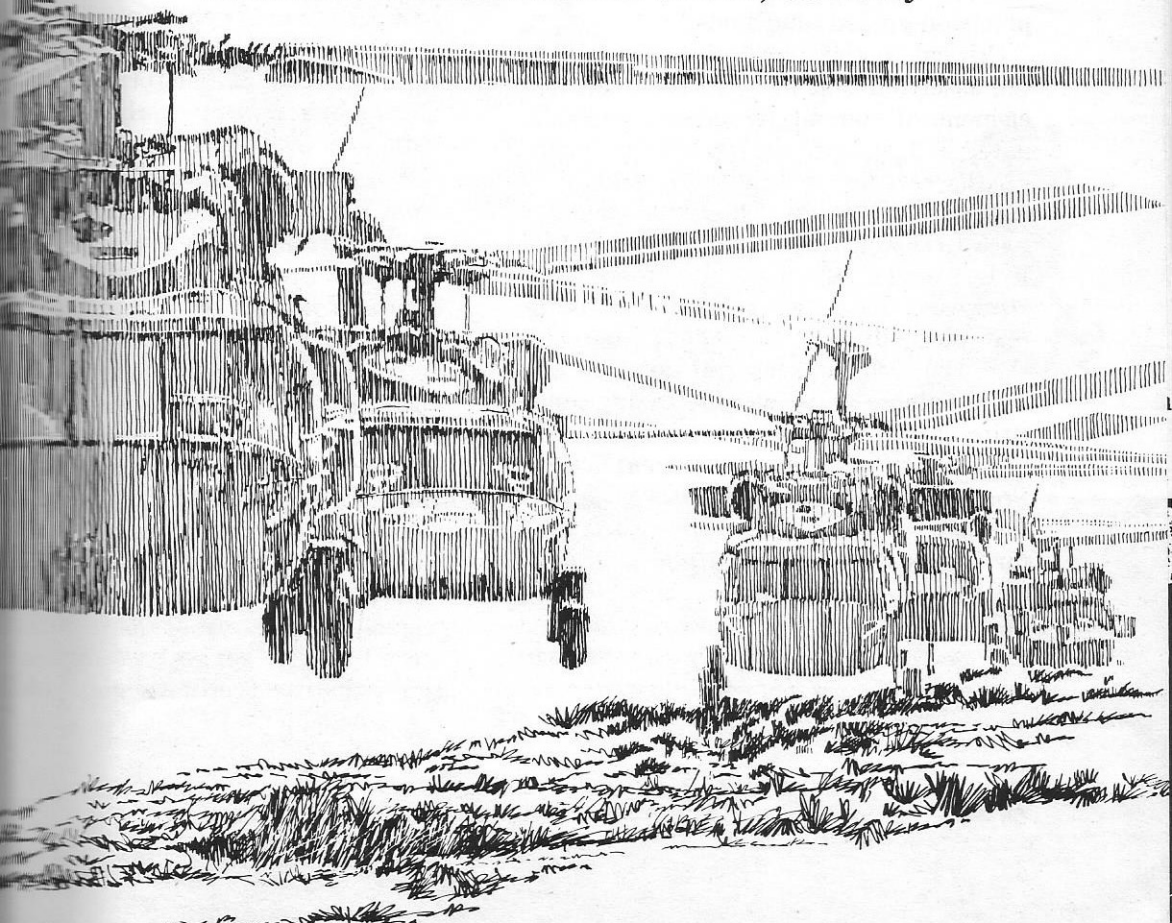


Today, we are experiencing change at an accelerating rate as new weapon systems alter traditional views toward land combat. History teaches that new technology can outpace the tactics on which plans and expectations are based. The author suggests we may be on such a threshold now and should re-examine the respective roles of armored vehicles and helicopters in light of those changes.

Mobility:

Key to Success on the Extended Battlefield

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THERE is a paradox emerging in our land combat doctrine. On the one hand, we say that "the tank, with its cross-country mobility, its protective armor, and its formidable firepower, had been and is likely to remain the single most important weapon for fighting the land battle."¹ On the other hand, we assert that the infantry with the proliferation of precision-guided munitions (PGMs) will be able to "inflict heavy losses on armored forces at both long and short ranges."² (Furthermore, these PGMs may have a significant psychological effect which would increase the latent function of conventional fire—"what can be seen can be hit and what can be hit can be killed.") If, in fact, large numbers of highly reliable PGMs dominate the battlefield, what will be the consequences?

"The three most significant (and symptomatic) technologies have been tactical nuclear weapons, the helicopter and precision-guided munitions."³

Critical to the approach taken here is the assertion that mass as the maneuver element of combat power can be dominated by fire. If it is, all movement *will be greatly restricted* or cease altogether.⁴

Armored vehicles brought mobility back to the battlefield during World War I by rendering most fire ineffective. However, today, we are faced with the real possibility, if not the probability, that armored vehicles will be more and more vulnerable to ever-increasing quantities of effective fire.

As an illustration, the present United States Army division has over a hundred forward observers, and artillery and mortar tubes capable of firing a guided ('smart') shell. Since an observer can guide in a shell every 15 seconds, division artillery could theoretically kill every armoured vehicle in a Soviet division in one

*minute. If individual targets are not visible but nonetheless grouped in a known location as in an assault, mortars with infrared seekers can have an even higher rate of kill.*⁵

Armor protection is not keeping pace with our "ability to penetrate armor . . ."⁶ Though there is an ongoing, rather heated debate on this issue, one must at least address the problem and ask some crucial questions.⁷ For example, does the defense now dominate the offense in land combat as a result of the new weapons technology?

*On the ground and in the air . . . the advent of the missile suggests that the day of the main battle tank and warplane may be ending. The superiority of the offensive may be declining in favor of the defensive.*⁸

As the vulnerability of armor increases, one can envision a situation where tanks may be completely stopped. The use of relatively inexpensive munitions, such as mines and PGMs, coupled with the high cost per armored vehicle, may greatly curtail the use of these vehicles. Will we be forced to react in a historically predictive pattern of accepting exorbitant losses in a vain attempt to gain the initiative?

When the infantryman was the base element of maneuver during World War I, we learned how vulnerable he was to the effective fire of machineguns and artillery. However, the reaction of those in command was an unimaginative policy of attrition which sent huge quantities of a vulnerable mass against extremely effective fire. "Why did so few military thinkers anticipate what the machinegun and the trench would do to war?"⁹

Are we planning to do the same thing today with an extremely vulnerable armor mass? Is our only response to extremely heavy armor losses more and more tanks? I suggest we examine once again the essence of combat power and

try to understand why the tank became the base element of land combat. The tank rendered fire ineffective by being invulnerable to it and by avoiding it. However, today, the vulnerability of the tank is growing, and its ability to avoid fire is decreasing.

Some have suggested that the only hope for the tank is to build it light enough to have the agility to avoid fire and thus survive. There is, however, in my opinion, clear indication that mobility on the battlefield can and will be retained through the employment of another vehicle—the helicopter.

While it is true that the helicopter is vulnerable to a wide spectrum of fire, it is also true that it has a tremendous ability to avoid fire through speed and by using the protective cover and concealment of the ground.¹⁰ This last point is especially important. The helicopter must be viewed more as a surface vehicle than as a suprasurface vehicle in that it is terrain-dependent for its survival in combat. Furthermore, its unique capability to land almost anywhere, create a mass anywhere on the surface or extract a mass makes it, in essence, more of a terrain-oriented platform than an airplane. (With the possible introduction of nuclear weapons on the battlefield, survival will be more and more a function of mobility to ensure dispersals at the critical time.)

Let us assume for a moment that war takes place in Central Europe and is limited to that geographical area. The point of contact, therefore, would be Central Europe, and relative combat power would be defined in terms of NATO versus the Warsaw Pact. Let us also assume that, at least initially, fire remained conventional. Most of the literature examining this scenario addresses the relative strength primarily in terms of mass in the form of armored vehicles.¹¹ In these rough

comparisons, it is evident that the balance favors the Warsaw Pact nations. However, rarely do we find any significant weight being attached to the imbalance which exists in the number of helicopters available to the two sides.¹² In fact, there are many who discount the role helicopters are likely to play.

*Armoured formations of all arms supported by intense air-to-ground attack, will still, I believe, be the principal and most effective way of carrying out this latter task, rapidly followed up and accompanied by infantry on their feet, at night. I have little faith in air-mobile troops in such a situation. . . . (Emphasis added.)*¹³

Furthermore, when comparing the relative strength of armored units, most analysts are careful to specify that the comparison is based on the vehicles likely to be present at the point of contact. In order to ensure sufficient mass at the point of contact, there has been a determined effort to pre-position large numbers of vehicles in the probable theater of employment—Central Europe. There is recognition by many of the decisionmakers that, once the conflict begins, relative combat power will depend mostly on what is on hand and not so much on what can be moved to the battle area.¹⁴

A crucial issue which must be examined in greater detail is the relative strength in terms of helicopters at the point of contact. In rough terms, potentially the United States enjoys a 3-to-1 advantage over the Soviet Union in helicopter strength.¹⁵ (See table.) However, when we look at our projected deployment for the year 1984, we find only about 15 percent of our total assets deployed in Central Europe.¹⁶ In relative terms, therefore, the Soviets may enjoy parity, if not superiority, at the point of contact.

“With combat experience in Southeast

Comparison of the Number of US and Soviet Helicopters*

United States		Soviet Union	
	Army		Air Force
AH1G/Q/S	1,000 (298)	Mi-1/2	300
UH1/19	4,000	Mi-4	170
UH60A	55 (195 on order)	Mi-6	380
OH6A/58A	2,500	Mi-8	1,600
CH47/54	<u>500</u>	Mi-10	10
		Mi-24 (Hind)	<u>750</u>
Total	8,055	Total	3,210
Marine Corps			
AH1J/T	72		
UH1N	96		
CH46F	162		
CH53D	<u>126</u>		
Total	456		

(Plus Navy, Air Force and Reserve aircraft)

*Taken from *The Military Balance, 1980-1981*, The International Institute for Strategic Studies, London, Eng., 1980, pp 5-13.

Asia, the U. S. Army is the world's foremost exponent of air mobility."¹⁷ (Emphasis added.) We learned, at great cost, the value of helicopters in Vietnam and the effect they can have on relative combat power. In the restricted terrain of Southeast Asia, it was the primary means of mobility in the battle area. We can look to the future in Central Europe¹⁸ and see similar terrain restrictions; urban sprawl continues unabated and might significantly restrict surface movement.¹⁹ In addition, the number of people operating privately owned motor vehicles has reached 20 million in the Federal Republic of Germany alone.²⁰ These

trends clearly indicate the need for vehicles which can provide a high degree of mobility in spite of increased obstructions to surface movement.

Possible roles of helicopters in the initial stages of conflict have been pointed out in an interesting study done by Brigadier General Robert Close, *The Feasibility of a Surprise Attack Against Western Europe*.²¹ In the scenario presented by General Close, the Soviets use large numbers of helicopters to achieve surprise and effect deep penetrations of Western Europe before NATO forces can react.²² By rapidly closing with NATO forces and by placing portions of

their mass in the urban areas, high value fire in the form of nuclear weapons is eliminated as a possible reaction by NATO forces.²³

The rapid movement afforded to the Soviets by the use of helicopters could most effectively be countered by equally mobile NATO forces. Here, again, the number of helicopters on hand at the beginning of hostilities is critical.

If the tank is stopped on the battlefield, helicopters could be used to regain the initiative. Though we have a tendency to see enemy anti-aircraft weapons as ubiquitous, we can use helicopters to conduct high-speed, small-scale paralyzing attacks on enemy "nerve" centers. This kind of maneuver on the "extended battlefield" could mean the difference between decisive initiatives and costly stalemate.

A crucial issue with regard to the effectiveness of helicopters in combat is the psychological preparation of the crew. Our experience in Vietnam indicates that, although high loss rates can be expected, with the use of proper training and recovery techniques these losses can be held to a minimum and crew survivability can be enhanced. Our current emphasis on the vulnerability of the helicopter may instill an overcautious attitude in our new aviators.

The situation may be likened to that of the submarine captains prior to World War II. These men were ingrained with the idea that technology had advanced to the point where their ability to survive once detected was extremely limited. Thus, they practiced great caution in their prewar training so as to avoid detection. It was soon learned, however, that this overcaution was unfounded, and it greatly reduced the effectiveness of the submarine.²⁴

Another essential role that helicopters

can play on the battlefield of Central Europe is providing psychological integration for the many disparate units scattered throughout the battle area. Just as in Vietnam where the helicopter's air lines of communication prevented a sense of hopeless isolation from setting in, one can imagine small, highly dispersed units in Central Europe being integrated by means of the helicopter.

It is beyond the scope of this article to examine in detail the many roles helicopters could play in a European environment. They have been well-documented in the current literature. What is suggested is that helicopters will play a significant if not a dominant role in future land combat.

In terms of relative combat power, we can have superior mobility. Our huge helicopter fleet can provide it in Central Europe if we have helicopters in sufficient quantity when and where they are needed. In light of the difficulty we anticipate in introducing any additional mass at the point of contact once hostilities have begun, I argue here that a larger portion of our helicopter fleet should be deployed to Central Europe than is currently envisioned.

This does not mean that all of these aircraft remain operational (we could use POMCUS (pre-positioning of materiel configured to unit sets)) or that they be necessarily located in the Federal Republic of Germany. Alternative staging areas, such as Great Britain, may serve satisfactorily since helicopters could be easily and quickly flown from these locations to the central front.

In summary, therefore, it is my assertion that the balance of combat power could favor NATO forces if enough helicopters are available at the point of contact to provide the key to decision in battle, *superior* mobility.

NOTES

1 Field Manual (FM) 100-5, *Operations*, Department of the Army, Washington, D.C., 1 July 1976, p 2-6.

2 *Ibid.*, p 2-7.

3 Steven L. Canby, *The Alliance and Europe: Part IV—Military Doctrine and Technology*, *Adelphi Papers*, Number 109, The International Institute for Strategic Studies, London, Eng., 1975, p 12.

4 An excellent discussion of the relationship between mobility and firepower is provided by Major William G. Stewart, "Interaction of Firepower, Mobility, and Dispersion," *Military Review*, March 1960, pp 26-33.

5 Canby, *op. cit.*, p 4.

6 FM 100-5, *Operations*, *op. cit.*, p 2-8.

7 For examples of the different viewpoints, see Finley T. Burke, *The Implications of the PGM Era*, Rand Corporation, Santa Monica, Calif., March 1977; Richard Burt, "New Weapons Technologies and European Security," *Orbis*, Summer 1975, pp 514-32; Philip A. Karber, "The Soviet Anti-Tank Debate," *Survival*, May-June 1976, pp 105-11; Jeffrey Record, "The October War: Burying the Blitzkrieg," *Military Review*, April 1976, pp 19-21; and James Digby, *New Non-Nuclear Military Technology: Implications and Exploitable Opportunities*, Rand Corporation, Santa Monica, Calif., March 1977.

8 Elizabeth Monroe and A. H. Farrar-Hockley, *The Arab-Israeli War, October 1973: Background and Events*, *Adelphi Papers*, Number 111, The International Institute for Strategic Studies, London, Eng., 1975, p 34.

9 Jay Luvaas, "European Military Thought and Doctrine, 1870-1914," *The Theory and Practice of War*, edited by Michael Howard, Indiana University Press, Bloomington, Ind., 1975, p 91.

10 For a discussion of specific techniques, see Charles A. Block, "Helicopter Tactics in a Non-Permissive Air Defense Environment," unpublished thesis, Naval War College, Newport, R.I., 1976; George N. Ivey, "Helicopter Survivability on Mid-Intensity Battlefield," unpublished thesis, Naval War College, Newport, R.I., 1976; Robert R. Lund, "Can Helicopters Survive Today's Antiair Threat to Support Amphibious Operations?," unpublished thesis, Naval War College, Newport, R.I., 1976; and FM 90-1, *Employment of Army Aviation Units in a High Threat Environment*, Department of the Army, Washington, D.C., 30 September 1976.

11 For example, see *The Military Balance, 1980-1981*, The International Institute for Strategic Studies, London, Eng., 1980; Canby, *op. cit.*; John Erickson, *Soviet-Warsaw Pact Force Levels*, US Strategic Institute, Washington, D.C., 1976; Robert Lucas Fisher, *Defending the Central Front: The Balance of Forces*, *Adelphi Papers*, Number 127, The International Institute for Strategic Studies, London, Eng., 1976; William Schneider Jr., "Soviet General-Purpose Forces," *Orbis*, Volume 21, Number 1, Spring 1977, pp 95-106; and "NATO and the New Soviet Threat," *Congressional Record*, Washington, D.C., 25 January 1977, pp S1411-17.

12 When one compares the total NATO assets versus the Warsaw Pact, the imbalance is more obvious. See *The Military Balance, 1980-1981*, *op. cit.* There are indications, however, that the Soviets are making great efforts to catch up. See Alexander Malzeyev, "Mil Mi-24—The First Soviet Combat Helicopter," *Interavia*, January 1976, pp 44-45; "Mil Mi-24 Hind A Assault Helicopter," *Aviation Week & Space Technology*, 1 March 1976, pp 16-17; Major Peter J. Blake, "Soviet Airmobile Tactics," *United States Army Aviation Digest*, April 1977, pp 1-3; Lieutenant Colonel Walter Urbach Jr., "Behind the Hind," *United States Army Aviation Digest*, April 1977, pp 4-5; and Major David A. Bramlett, "Soviet Air-mobility: An Overview," *Military Review*, January 1977, pp 14-25.

13 Michael Carver, "Documentation: NATO Strategy," *Survival*,

January-February 1977, p 36.

14 "Decreased warning time severely limits the reinforcements that could be moved from North America and the United Kingdom to NATO Center. This greatly magnifies the importance of forces already in place on the continent, the bulk of which are and of necessity must be European." "NATO and the New Soviet Threat," *Congressional Record*, *op. cit.*, p S1414. For a detailed discussion of moving helicopter units to Europe, see Lieutenant Colonel John A. G. Klose, "Get Ready—Get Set—Go!!," *United States Army Aviation Digest*, December 1976, p 6. Also, see other articles dealing with REFORGER in issues of the *United States Army Aviation Digest*.

15 This is based on figures provided in *The Military Balance, 1980-1981*, *op. cit.* For example, see the table in this article. It is interesting to go back for the past 10 years of *The Military Balance* and note that comparison tables of helicopter strength are not provided. It is also interesting to note that, under deployment forces, it is reported that 3,000 US tanks are in Europe, but there is no mention of helicopters. See *The Military Balance, 1980-1981*, *op. cit.*, p 6. Soviet numbers may be lower now considering the significant losses they have suffered in Afghanistan. See *Aviation Week & Space Technology*, 9 February 1981, p 23.

16 "Establishment of the Cobra force and reorganization of the air units that operate Cobras to enhance the antiarmor capability is only a portion of the major increase in air power the Army plans to put into Europe by the end of 1984. By that time, the Army plans to have 1,566 aircraft in Europe, including 360 anti-armor missile-equipped helicopters." David A. Brown, "Cobra Bolsters U.S. Stance in Europe," *Aviation Week & Space Technology*, 14 November 1977, p 41.

17 FM 100-5, *Operations*, *op. cit.*, p 2-30.

18 "Defined as the territory of the Federal Republic of Germany south of the Elbe and the Benelux countries." "NATO and the New Soviet Threat," *Congressional Record*, *op. cit.*, p S1413.

19 "Present doctrines for mobile ground operations and material employment are based on open spaces that are shrinking rapidly, engulfed by development." See Paul J. Braken, "Models of West European Urban Sprawl as an Active Defence Variable," *Military Strategy and Tactics Computer Modeling of Land War Problems*, edited by Reiner K. Huber, Lynn F. Jones and Egil Reine, Plenum Publishing Corporation, N.Y., 1974, p 219.

20 "Motor vehicles licensed in the Federal Republic on 1 July 1974 numbered 20,424,226 (including 230,364 motor cycles, 17,341,265 passenger cars, 1,135,784 trucks, 57,808 buses and 1,543,000 tractors)." *The Statesman's Yearbook, 1976-1977*, edited by John Paxton, St. Martin's Press Inc., N.Y., 1976, p 969.

21 General Robert Close, *The Feasibility of a Surprise Attack Against Western Europe*, NATO Defense College, Rome, Italy, 24 February 1975.

22 "Soviet doctrine emphasizes offensive operations based on seizing the initiative and exploiting the surprise factor, for both nuclear and conventional operations. . . . This advance would be assisted by the extensive use of helicopter-borne assaults to seize objectives designed to facilitate the Soviet advance and also airborne operations, used in similar fashion to exploit the initial nuclear blow." Erickson, *op. cit.*, p 32.

23 For a discussion of "urban hugging tactics," see Paul Braken, "Urban Sprawl and NATO Defense," *Military Review*, October 1977, pp 32-39. This same tactic was used extensively by the North Vietnamese army to avoid the American fire.

24 See Clay Blair Jr., *Silent Victory: The U.S. Submarine War Against Japan*, Bantam Books Inc., N.Y., 1976.



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