INTRODUCTION

During times of conflict military geography invariably surfaces as an important problem-solving subfield of geography. Since September 11, 2001, dozens of geographers employed by the Department of Defense have focused their attention on Central Asia in general and on Afghanistan in particular. Academic geographers have also been beckoned by the government, military, and media to apply their particular systematic or regional expertise to America's recent challenge.

One cannot dispute the wartime relevance of the subfield, yet since the fall of the Berlin Wall, applications during peacetime and military operations other than war (MOOTW) have become more apparent (Palka and Galgano, 2000). Military geography entails the application of geographic information, tools, and techniques to military problems, whenever and wherever those problems occur. As such, the subfield has unquestionable relevance across a spectrum from peacetime to wartime.

HISTORICAL DEVELOPMENT

The first use of geographic knowledge in military decision-making probably predates written history. Thompson (1962) traced the first use of military geography to Megiddo (near present day Haifa) in 1479 BC. Subsequent historical accounts are replete with examples of famous military leaders whose actions were influenced by their interpretation of geographic factors. As a formal field of study, military geography was primarily a European innovation, with the French, Germans, and British pioneering most of the work during the nineteenth and early twentieth centuries.

MILITARY GEOGRAPHY IN AMERICA

Brown's (1885) military geography of the United States and Canada was the first American publication devoted exclusively to the subfield, but his impact was minimal because of the book's restricted use at the Infantry and Cavalry Schools.
Mahan (1890) provided the first widely recognized American contribution to the field and laid the foundation for what was later to become strategic geography.

**WORLD WAR I**

The first formal demand for military geography in the United States surfaced during World War I. The military geographic emphasis at that time focused on the physical geography of the battlefield, conceptualized primarily as the domain of ground forces. Fifty-one members of the American Association of Geographers (AAG) participated in World War I or the Peace Conference that followed (Martin and James, 1993).

**WORLD WAR II**

During World War II, widespread support to the war effort included more than 300 geographers working in the Office of Strategic Services, War Department, Intelligence Division, and in the Army Map Service (Martin and James, 1993). Military geography matured beyond data acquisition and compilation, to include detailed assessments of the physical and human geography of specific regions. These efforts culminated in the Joint Army and Navy Intelligence Studies (JANIS), which were essentially the regional geographies of selected countries or theaters. Within academia, training programs specifically designed for military personnel spurred widespread interest in the subfield (Ackerman, 1945). Throughout the war, a plethora of articles and studies were published on various aspects of military geography (Palka and Lake, 1988).

After the war, the subdiscipline continued to be an integral part of university geography programs. Additionally, the AAG established the Committee on Military Geography to advise professional military schools on the design and implementation of military geography courses. The subfield continued to flourish during the initial stages of the Cold War (Mason, 1948a and b), and the conflict in Korea served as a catalyst just as World War II had a few years earlier.

**THE VIETNAM ERA AND THE AFTERMATH**

On the eve of the Vietnam era, several noteworthy publications emerged (Pel­tier, 1961; Meigs, 1961; Jackman, 1962; and Peltier and Pearcy, 1966). The legitimacy of the subfield was reinforced in the AAG's (1966) special bulletin, Geography as a Professional Field, which featured a section entitled "Careers in Military Geography." As the war in Vietnam progressed, however, military geography lost its appeal among university programs.

The controversy surrounding the Vietnam War cast a persistent shadow on military geography throughout the 1970s. In retrospect, the adverse effect of the unpopular war was understandable, if not predictable. The subfield's applied wartime focus, perceived for many years as its raison d'etre, came under intense scrutiny, and without alternative applications, military geography lost its appeal within academia.

**WAR IN THE PERSIAN GULF**

Military geography was instrumental for success during the Gulf War. The reliance on geographical information was fundamental to training, equipping, and deploying forces to Southwest Asia. Satellite imagery, aerial photography, computer cartography, the global positioning system, and geographic information systems were indispensable tools for developing plans and conducting operations. Additionally, pertinent regional and systematic geographies provided current and relevant information to support military decisions from the outset of Desert Shield to the end of Desert Storm.

**END OF THE COLD WAR**

The fall of the Berlin Wall and the demise of the former USSR prompted significant changes in the country's National Security Strategy (Shalikashvili, 1995). The dramatic shift in strategic orientation has wrought substantial changes in the size, force structure, and disposition of the U.S. Military. Moreover, the country's involvement in MOOTW has increased at
an unprecedented rate, despite decreases in the number of units stationed abroad. Between 1989 and 1997, the Military participated in 45 operations other than war, more than triple the total number conducted during the entire Cold War era from 1947–89 (Binnendijk, 1998).

The end of the Cold War provided an appropriate time to re-examine the scope of military geography (Anderson, 1993; Palka, 1995; Palka and Galgano, 2000; O’Sullivan, 2001). Historically, military geography included the whole range of geographic research as it applied to military problems during war (Russell, 1954; Jackman, 1962). Contemporary military problems, however, are significantly different from those that were envisioned by earlier pioneers in the subfield (Palka and Galgano, 2000; O’Sullivan, 2001). Although the U.S. Military continues to focus on defense issues, there has been a considerable expansion of activities in the humanitarian sphere since 1991 (Anderson, 1994; Palka, 1995).

A NEW ERA

Military geography has entered into a new era. First, the end of the Cold War and the Military’s subsequent involvement with MOOTW has spawned wider ranging possibilities for military geographic studies (Goure, 1995; Gutmanis, 1995; Palka, 1995; Palka and Galgano, 2000). Wartime applications, although invaluable, have not always been popular. Humanitarian and peacetime operations provide alternatives that are much less controversial and seemingly attractive to a larger audience and new generation of geographers.

Second, recent works by Collins (1998), Winters (1998), and Palka and Galgano (2000) fill a void that has existed for more than a quarter of a century. For the first time since Peltier and Peary’s (1956) text, comprehensive works on military geography are available for use as college textbooks.

Third, the recently re-established military geography specialty group has experienced considerable interest and growth. Since the AAG’s 1996 meeting in Charlotte, multiple sessions have been scheduled during the annual conference to accommodate numerous papers within the subfield.

Fourth, recent technological advancements continue to highlight the capabilities of geographic tools to facilitate problem solving at multiple scales (Corson and Minghi, 1996). Moreover, applications have proven indispensable across the spectrum from peace to war.

AN AZIMUTH AND AN AGENDA FOR THE FUTURE

A few paradigm shifts are necessary if military geography is to maintain its momentum into the twenty-first century. The first shift advocates increased consideration of peacetime concerns. Ironically, peacetime concerns have always consumed the majority of the Military’s time and effort, yet geographers have generally ignored those areas. Recent studies concerning the U.S. Army’s training lands (Shaw et al. 2000), recruiting (Malinowski and Brockhaus, 1999), tropical test center relocation (King et al. 2001), and bioclimatological considerations during basic training (Dixon, 2000), epitomize the diverse opportunities that exist in the peacetime arena.

A second adjustment calls for embracing the opportunities available within the MOOTW context. MOOTW are innately geographic. A partial list includes: security assistance; nation-building; humanitarian assistance and disaster relief; support to counter-drug operations; peacekeeping; arms control; combating terrorism; shows of force; noncombatant evacuation; and support to domestic civil authority (Center for Army Lessons Learned (CALL), 1993). Specific examples are too many to list, but have been well publicized recently. Additionally, the Military has been actively involved in operations to improve infrastructure and health conditions throughout the world (Shannon and Sullivan, 1993; Binnendijk, 1998) and will undoubtedly continue to respond to refugee problems, floods, earthquakes, hurricanes, and forest fires, domestically and abroad.

A third area that demands attention is environmental stewardship on military
installations. The Department of Defense (DoD) oversees 25 million acres of domestic holdings and more than 2 million acres of land abroad, making it one of the most important environmental resource managers in the world. Domestically, formal environmental restoration programs have been underway on military bases since 1984. A wide range of multifaceted programs have been administered to remedy various age-old pollution problems, and specific measures have been implemented to better manage natural resources, prevent contamination, protect endangered species, and comply with environmental policy and legislation. Given the discipline's traditional interest in land-use planning and resource management, this area constitutes fertile ground for geographers.

CONCLUSION

Military geography in America has evolved from infancy during the past century. The discipline has acquired continual definition and distinction from the outset of World War I through the Korean War, only to have its legitimacy questioned in the latter stages of the Vietnam era. After a period of stagnation during the 1970s and early 1980s, military geography rebounded and soared to new heights during the 1990s.

The U.S. Military is typically present in nearly half the countries of the world, actively engaged in training, peacekeeping, humanitarian assistance, nation-building, and other military operations other than war (Binnendijk, 1998). Although the problems encountered within each of these scenarios are varied, complicated, and often unexpected, the geographers' tools, techniques, and knowledge can be fundamentally relevant and unquestionably useful in solving these problems across the spectrum from peacetime to war.

The current emphasis on combating terrorism and MOOTW is indicative of America's global commitment, yet, also reflective of the increased flexibility (since the end of the Cold War) to employ military forces in a wide range of scenarios. Similarly, the commitment to environmental stewardship has been expressed in our National Security Strategy since 1991. These relatively recent changes in the U.S. Military's orientation demand a military geography that is sufficiently broad in scope and capable of addressing the full range of contemporary military problems. The core of traditional military geography will continue to be an integral aspect of all plans and operations during armed conflicts. Yet, now more than ever before, geographers specializing in various subfields or regions can make substantial contributions to the Military's humanitarian relief efforts, environmental programs, and peacetime training missions.

REFERENCES


