

ARTILLERY IN URBAN OPERATIONS: REFLECTIONS
ON EXPERIENCES IN CHECHNYA

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE
General Studies

by

RICHARD D. WALLWORK, MAJ, BRITISH ARMY
Batchelor of Engineering (Hons) Engineering with Business Studies,
Sheffield Hallam University, 1993.

Fort Leavenworth, Kansas
2004

Approved for public release; distribution is unlimited.

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

Name of Candidate: MAJ Richard D. Wallwork

Thesis Title: Artillery in Urban Operations: Reflections on Experiences in Chechnya

Approved by:

_____, Thesis Committee Chair
Harold S. Orenstein, Ph.D.

_____, Member
Timothy L. Thomas, M.A.

_____, Member
Herbert F. Merrick, M.A.

Accepted this 18th day of June 2004 by:

_____, Director, Graduate Degree Programs
Robert F. Baumann, Ph.D.

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

ARTILLERY IN URBAN OPERATIONS: REFLECTIONS ON EXPERIENCES IN CHECHNYA, by MAJ Richard D. Wallwork, 115 pages.

Artillery operations during the two Chechen conflicts have been extensive. The battles fought in Grozny provide relevant contemporary examples of large-scale urban fighting involving artillery.

As the amount of urban areas in the world continues to increase, so does the probability of fighting there. Possible enemies are looking at ways of negating the perceived technological advances of the more powerful nations, and making use of the shelter of an urban jungle is one way to do this. The modern artillery commander needs to understand the requirements and implications of fighting in urban areas.

This thesis provides a background to the Chechen conflict, details of the two major battles for Grozny from an artillery perspective, the lessons observed, and an analysis of these lessons. In examining how a largely untrained and ill-equipped Chechen force inflicted several devastating blows to the Russian Army, it is possible to be prophetic and estimate how a modern military would have fared in such a situation. If preparation is inadequate for urban operations, in time, other militaries may suffer a similar fate. This thesis should provide a building block for the artillery commander for use in training and in future urban combat doctrine development.

ACKNOWLEDGMENTS

My greatest thanks go to my wife Jo, for all her patience, the cups of coffee and sacrificed Sundays. My committee has been invaluable in their advice and direction. Tim Thomas has been a continual source of knowledge and inspiration. I am also extremely grateful to Dr. Orenstein and Helen Davis for their patient and detailed editing of an overly Anglicised (sic) text.

TABLE OF CONTENTS

	Page
MASTER OF MILITARY ART AND SCIENCE THESIS APPROVAL PAGE	ii
ABSTRACT	iii
ACKNOWLEDGMENTS	iv
ACRONYMS	vii
ILLUSTRATIONS	ix
TABLES	x
CHAPTER 1 INTRODUCTION	1
Thesis Format	5
Key Terms	6
Limitations	9
Delimitations	10
Research Method	10
Literature Review	11
Significance of the Study.....	14
CHAPTER 2 BACKGROUND	17
An Age-Old Story.....	17
Origins of Conflict.....	19
Artillery Tactics and Doctrine	26
CHAPTER 3 THE BATTLES	33
The Condition of the Russian Military	33
The First Battle for Grozny.....	35
The Interconflict Period 1995 to 1999	45
The Second Battle for Grozny	49
CHAPTER 4 ARTILLERY EQUIPMENT OBSERVATIONS	59
Precision Systems	59
Heavy Artillery	65
Fuel-Air Explosives.....	68

CHAPTER 5 LESSONS LEARNED	71
Rules of Engagement	71
Tactics, Techniques, and Procedures	75
Training Lessons	81
Equipment.....	85
CHAPTER 6 CONCLUSION	90
Conclusion	90
Recommended Topics of Future Study	95
REFERENCE LIST	97
INITIAL DISTRIBUTION LIST	103
CERTIFICATION FOR MMAS DISTRIBUTION STATEMENT	104

ACRONYMS

AAR	after-action review
APC	armoured personnel carrier
AFM	army field manual (British Army)
BCTP	battle command training program
BMP	boevaya mashina pekhoty (Russian designation for infantry fighting vehicle)
CAS	close air support
CSRS	Conflict Studies Research Centre
CIA	Central Intelligence Agency
FAS	Federation of American Scientists
FIBUA	fighting in built-up areas (British Army)
FM	Field Manual (US Army)
FMSO	Foreign Military Studies Office
HUMINT	human intelligence
IFV	infantry fighting vehicle
IR	infrared
JDAM	joint direct attack munitions
JP	joint publication
MBT	main battle tank
MOOTW	military operations other than war
MOUT	military operations in urban terrain
MVD	Ministerstvo vnutrennikh del (Ministry of Internal Affairs)
NCMD	North Caucasus Military District

NATO	North Atlantic Treaty Organisation
OBUA	operations in built-up areas
OIF	Operation Iraqi Freedom
OMON	Otryad Militsii Osobogo Naznacheniya (Internal Affairs Ministry special purpose militia)
PE	probable error
ROE	rules of engagement
RPG	rocket-propelled grenade
SADARM	sense and destroy armor munition
SP	self-propelled
TOW	tube launched, optically tracked, wire guided (missile)
USSR	Union of Soviet Socialist Republics
US	United States
USMC	United States Marine Corps
UK	United Kingdom

ILLUSTRATIONS

	Page
Figure 1. Map of Chechnya	18
Figure 2. The Multidimensional Combined Arms Problem.....	27
Figure 3. Indirect Fire Deadspace	29
Figure 4. The Invasion of Chechnya 1994	37
Figure 5. The Assault Group	42
Figure 6. Phase 2 of the Recapture of Grozny, 1999	51
Figure 7. The 9K25 Krasnopol Laser Guided Shell.....	61
Figure 8. The 2S4 Tyulpan SP Mortar	66
Figure 9. The TOS-1 “Buratino”	68

TABLES

	Page
Table 1. Initial and Subsequent Force Ratios	38
Table 2. Numbers of the Federal Forces and the Chechen Armed Formations	56
Table 3. Summary Russian Artillery Lessons from Chechnya	88

CHAPTER 1

INTRODUCTION

Preface

The best military policy is to attack strategies; the next to attack alliances; the next to attack soldiers; and the worst to assault walled cities. Resort to assaulting walled cities only when there is no other choice. (Cleary 1988, 70)

Sun Tzu, The Art of War

The conflict in Chechnya has been raging since late 1994. The fighting during the various battles for Grozny and the other areas of Chechnya has been extremely fierce, resulting in severe losses to both the Russian Army and the Chechen rebels. Initially, the Russian Army expected little if any resistance from Chechen fighters, but the former's early losses and defeats proved otherwise. The defeats also proved that the Russian Army was ill equipped, ill trained and ill prepared to fight a small, determined army in both urban and rural terrain. The Russian Army clearly needed to adapt and adapt it did. Over subsequent engagements and battles the Russian Army significantly altered its approach not just to fighting in built-up areas but also in how it prepared itself to do this.

Pertinent to this thesis is the way in which artillery and its associated systems were employed and how this employment developed over time. Traditionally the Russian Army relied heavily upon artillery, hence its adopted name as the "God of War." Artillery oppresses, jars, stuns, and disorients the enemy and lifts the morale of its own troops. Throughout history no army had understood this better than the Russian (Bellamy 1986, 1).

The development of Russian artillery doctrine throughout the Cold War came to rely upon heavily centralized control and the fighting of artillery in set groupings. It saw

the artillery battalion as the lowest tactical unit employed. The doctrine was driven by a need to mass fires into concentrations to defeat a large number of armored targets on the battlefield. Battalion groupings are considered to be the optimal size to create the right balance between firepower, responsiveness, and flexibility (Bellamy 1986, 186). This doctrine proved unsuitable for urban operations, especially urban operations inside Russia, largely due its reliance on central control and good communication.

Grozny is an interesting example of urban fighting not only as it became almost “unrestrictive” fighting, but also for the fact that there were two main fights for the city (1994 and 1999) between the same forces. This in itself allows a direct comparison and eases the problems of looking at what was done differently. The time between the two battles, just under five years, is also of note as it is a significant amount of time, long enough to allow not just tactical and doctrinal revisions but also to allow equipment and organizational changes. The conclusions of this thesis will hopefully allow artillery commanders to think more directly about the actual activities involved in urban fighting beyond the simple “prevention of withdrawal and prevention of reinforcements,” which is often all that is taught.

Operations in urban areas are of interest to modern militaries for several reasons. These lie within the categories of asymmetric opposition, globalization, and the growth in the urban population.

The United States (US) Army future force recognizes three key assumptions, one of which is that sanctuaries, such as cities, complex terrain, and underground facilities, will become more important as enemies strive to avoid open battles that heavily favor US air and ground forces. Also, future adversaries will not want to fight battles on open

terrain, where their forces and equipment will be relatively easy for (American) forces to find and destroy (Gritton and Anton 2003, 90). History has shown repeatedly that urban areas are great equalizers of armies (Mogadishu, Grozny, and Hue are prime examples). It is important therefore to look into how to retain existing advantages and ensure they are exploited. Political, diplomatic, media, and economic centers of gravity will increasingly lie in urban areas and as such it is necessary to have the capability to attack or protect them as required. Western alliances and coalitions may find themselves operating in these areas with increasing frequency, especially during “other operations” (military operations other than war - MOOTW) that tend to be “people-centric, hence urban-based” (Barley 2000, 18). Cities have changed and will continue to fundamentally change over the coming years, in many cases for the worse. “Failed cities [will] turn into killing grounds and reservoirs for humanity’s surplus and discards (guess where we will fight)” (Peters 1997, 53).

The CIA *Trends 2015 Report* suggests that by 2015 more than 60 to 75 percent of the world population will live in cities, and 70 percent of these cities lie in the littoral. Given deployments over the last decade or so, more and more of them have occurred at least partially in cities, for example, Somalia and Mogadishu, Bosnia and Sarajevo, Kosovo and Pristina, Iraq and Baghdad and Basra, to name the main ones. The concept of the “Three-Block War” is alive and well and will doubtlessly continue to feature in operations in the future. (The three-block war is an analogy of General (Retired) Krulak, United States Marine Corps. In it he describes operations in urban terrain where on one city block peace support operations are being carried out, on the next block peace enforcement is being carried out, i.e., the separation of warring factions, and on the third

block forces are involved in high intensity combat operations.) To that end, with adversaries who may well fight asymmetrically and seek to avoid open combat while hiding in the ever growing cities, the ability to fight in this arena needs to be constantly reviewed. The question that begs to be asked is, will the battle of Grozny be re-enacted? (Peters 1997, 50).

Questions over issues of rules of engagement (ROE) are particularly pertinent to the Chechnya issue, given the ferocity of some of the bombardments by the Russian Army. In *Denying the Widow-Maker* by the RAND Corporation, it is suggested that the Russian approach of “no rules of engagement and no regard for non-combatants is not an option for the US” (RAND 1998, 65). Further, in *Urban Combat: Confronting the Specter*, it is stated, “Destroying the city to save it with artillery and aerial bombardment will often not be an option. Fire support will most likely be constrained for political, economic, public relations or humanitarian reasons” (Grau and Kipp 1999).

While this is probably true, the Russian Army did not enter Chechnya intending to get embroiled in such a bloody fight, and the situation quickly developed. Hence the initial set of engagement guidance did not survive contact for long (use of the term ROE with respect to the Russian Army has been avoided as the guidance given was so poor and ill communicated that it cannot be called such). Before the December 1994 assault into Grozny, Russian Defense Minister Pavel Grachev suggested that no tanks or artillery would participate in the attack. Restraint on the use of force was abandoned after unsupported infantry began taking heavy losses (Edwards 2000, 64). ROE may not deteriorate so quickly and to such depths, but no possibilities should be discounted, especially in the face of potential heavy losses. Direct use of some of the Russian

methods may not seem likely at this point in time, but examination of them can still yield useful lessons. Would the presence of a quantity of artillery have assisted Task Force Ranger personnel surrounded in Mogadishu, Somalia, and would it have saved US lives? The commander on the ground must be given as many alternatives as possible if the situation rapidly deteriorates.

Russian artillery equipment, tactics, and procedures have been and still are widely exported. Arms and advisors are among Russia's main exports. In addition to this are significant quantities of military-to-military exchanges that occur, journals, books, and conferences that are attended. The overall effect is a wide dissipation of the Russian way of operating. Of note is that two of the world's largest armies, China and North Korea, are similarly equipped and trained, and will certainly have studied in great detail the effectiveness of the Russians in Chechnya. The use of artillery by these nations owes much to the Russian precedent (Bellamy 1986, 4).

Thesis Format

The primary question this thesis will investigate is, What are the artillery lessons learned from the conflict in Chechnya? Within this question are several key secondary questions. What did the Russian Army do to overcome early acute losses (with respect to its use of artillery) in Grozny? What new developments and employments of artillery weapons in urban fighting occurred (not necessarily new in terms of time but new in terms of their employment)? What developments have occurred in Russian Army artillery equipment and doctrine since the start of the Chechnya campaign and how have they influenced current organizational philosophy? How can artillery training techniques and procedures be improved to better prepare soldiers for urban operations?

The scope of the thesis is deliberately narrow to make it all the more relevant to the use of artillery and not too generalist, as indeed many papers on Chechnya are. The lessons will be covered and presented over six chapters.

Chapter 1 will contain the research question and secondary questions, state the significance of the subject, establish the organization of the thesis, define any key terms used in the thesis, list the limitations and delimitations in the thesis, and demonstrate the research methods used. Chapter 2 will include a background and summary of the historical events of the conflict to serve as a base from which to examine the lessons learned. The use of artillery in urban operations will also be examined in this chapter. Chapter 3 will depict the key battles of the Chechen conflict with respect to artillery. It will also examine the Russian forces involved, the doctrine and tactics they employed, and the tactics they faced from the Chechen forces. Chapter 4 will highlight any significant changes to the procedures used and developments of artillery equipment throughout the campaign and examine how Russian artillery equipment has developed. Chapter 5 will contain a summary of the artillery lessons learned. Chapter 6 will cover the conclusions of the thesis and show its relevance to artillery operations today. It will also suggest possible areas for further study.

Key Terms

Close Combat. Combat carried out with direct-fire weapons, supported by indirect fires, air-delivered fires and nonlethal engagement means. Close combat defeats or destroys enemy forces or seizes and retains ground (FM 3-0 2001, 4-9).

Collateral Damage. Unintended or undesirable civilian personal injuries or materiel damage adjacent to a target produced by the effects of friendly weapons (FM 3-06 2003, Glossary 4).

Combat Power. The total means of destructive and/or disruptive force which a military unit/formation can apply against the opponent at a given time (JP 1-02 2001, 97).

Firepower. The potential capacity (product) of all weapons and attack systems available to the force commander (JP 1-02 2001, 198).

Fires. The delivery of all types of ordnance through both direct and indirect means, as well as nonlethal means, that contribute to the destruction, disruption, or suppression of the enemy; facilitate tactical movement; and achieve a decisive impact (JP 1-02 2001, 198).

Joint Urban Operations. All joint operations planned and conducted across the range of military operations on, or against objectives on a topographical complex and its adjacent natural terrain where manmade construction or the density of noncombatants are the dominant features (JP 1-02 2001, 291).

Maneuver. One of the nine principles of war: place the enemy in a disadvantageous position through the flexible application of combat power (FM 3-0 2001 4-4).

Military Operations on Urbanized Terrain (MOUT). All military actions planned and conducted on a topographical complex and its adjacent natural terrain where man-made construction is the dominant feature. It includes combat in cities, which is that portion of MOUT involving house-to-house and street fighting in towns and cities (FM 101-5-1 1997, 1-101).

Protection. Protection is the preservation of the fighting potential of a force so the commander can apply maximum force at the decisive time and place (FM 3-0 2001, 4-8).

Tactics. Tactics is the employment of units in combat. It includes the ordered arrangement and maneuver of units in relation to each other, the terrain, and the enemy to translate potential combat power into victorious battles and engagements (FM 3-0 2001, 2-5).

Targeting. The process of selecting targets and matching the appropriate response to them, taking account of operational requirements and capabilities. The analysis of enemy situations relative to the commanders' mission, objectives, and capabilities at the commander's disposal, to identify and nominate specific vulnerabilities that, if exploited, will accomplish the commander's purpose through delaying, disrupting, disabling, or destroying enemy forces or resources critical to the enemy (JP 3-60 2002, Glossary 11).

Urban Area. A topographical complex where man-made construction or high-population density is the dominant feature (FM 3-06 2003, Glossary 33) .

Urban Environment. Includes the physical urban area as well as the complex and dynamic interaction and relationships between its key components--the terrain (natural and man made), the population, and the supporting infrastructure--as an overlapping and interdependent system of systems (FM 3-06 2003, Glossary 33).

Urban Operations. Offense, defense, stability, and support operations conducted in a topographical complex and adjacent natural terrain where manmade construction and high population density are the dominant features (FM 3-06 2003, Glossary 33).

Limitations

Official and available (i.e., unclassified) Russian publications on the fighting in Chechnya are difficult to obtain in translation. Despite this, a large number of Western publications exist that look extensively at the Chechen conflict, covering a myriad of topics on the subject. This secondary source material is useful to extract the relevant issues. Many journalists have written regarding the fighting in Chechnya, although the majority of these writings tend to have a bent to one side and should be viewed accordingly.

The Russian Army does not openly publish writings on lessons learned. The vast majority of papers on the subject have been written in Russian newspapers and journals and subsequently used in secondary source publications. Sufficient material is, however, available to allow analysis and the drawing together of facts to allow for a robust analysis that will lead to original and valid conclusions.

As far as the operations in Chechnya go, it may be argued that the approach taken by the Russian Army, that is, an almost systematic destruction of a city, would not be acceptable to a Western government, so why study it? Interestingly though, that action was only arrived at following a failure of initial tactics and a profound desire to reduce Russian casualties. One would hope that if the US or its allies became involved in street fighting its tactics would be successful. However, if the body count adds up and political resolve remains high enough, it is not unthinkable that the US and its allies may end up in a similar situation. As stated earlier, Russian tactics have been exported to a number of countries against which the US and its allies may one day fight. Understanding them will be an advantage.

Delimitations

This thesis is limited in scope to looking at the tactical use of artillery in Chechnya. This will render the thesis more immediately useful to artillery commanders looking for lessons regarding operations in urban terrain. The protracted period of the conflict and the fact that many battles were fought over the same piece of ground several times allow specific comparison of the methods employed and their immediate effectiveness. The examination of artillery at the tactical level allows direct conclusions to be made regarding its effectiveness.

Given the short nature of this work, this thesis will not directly cover the other aspects of fires (known as offensive support in the UK), such as electronic warfare, information operations, and close air support, to allow a sufficient amount of attention to be given to artillery. These areas, especially the use of close air support, will feature later in the thesis as subjects for possible further research.

Research Method

This thesis will analyze the main question using the historical method. This method comprises six steps:

1. Selecting and refining the topic.
2. Gathering the evidence to answer the research question.
3. Recording the relevant evidence.
4. Critically evaluating the evidence.
5. Arranging the data into an understanding and meaningful way to answer the research question.

6. Communicating the findings in a way to assist in full understanding of the subject.

Sufficient work exists on the conflict to allow it to be researchable.

Literature Review

Several key works exist on Chechnya. They include *Chechnya: Tombstone of Russian Power* by Anatol Lieven, *Decline and Fall of the Russian Empire* by Fred Cole, and *Calamity in the Caucasus* by Carlotta Gall and Thomas de Wall. These publications give a very good perspective of Chechen history and focus in great detail on the secession of Chechnya and the role of President Dudayev. Lieven and Gall/de Wall also go into great detail regarding the 1994 and 1995 battle for Grozny. Robert Seely, in the *Russo-Chechen Conflict, 1800-2000: A Deadly Embrace*, provides some comparisons between the first and second Chechen conflicts and discusses the years between the conflicts. The texts vary little in their findings although some delve more deeply into the underlying problems in the Russian Federation, the extent of corruption, and the power of organized crime.

The Second Chechen War from the Conflict Studies Research Centre provides the best account of the fighting in 2000 and several of its articles make direct comparisons with the 1994 and 1995 battles, especially Michael Orr's *Better or Just Not So Bad? An Evaluation of Russian Combat Effectiveness in the Second Chechen War* and Lester Grau's *Technology and the Second Chechen Campaign: Not All New and Not That Much*. Both articles refer in part to the use of artillery, the employment of new tactics, and, in the case of Grau, the use of thermobaric weapons.

A great number of short papers and articles have been written on Chechnya, especially on tactical aspects of the battles. Notable writers included those at the Foreign Military Studies Office (FMSO) at Fort Leavenworth, Kansas (Dr. Jacob Kipp, Les Grau, and Tim Thomas) and the Conflict Studies Research Centre (CSRC) at the Defence Academy in the United Kingdom (UK). The resources at FMSO and the Center for Army Lessons Learned are excellent and provide ample material on any area of urban fighting. The RAND Corporation has produced several publications, including *Russia's Chechen Wars 1994-2000: Lessons from Urban Combat* by Olga Oliker. It also has produced generic publications on military operations on urban terrain (MOUT) that make many references to Chechnya and are a good source of information on the conflict. Of note are *Mars Unmasked: The Changing Face of Urban Operations* and *Denying the Widow-Maker* (both collections edited by Russell Glenn).

Regarding artillery, Chris Bellamy's *Red God of War: Soviet Artillery and Rocket Forces* appears by far to be the best source on contemporary Russian artillery before the Chechnya conflict. Despite being written in 1986, it appears the most up-to-date publication to address the topic in such depth. Bellamy quotes from many works of prominent Soviet artillery officers who themselves have produced works using data from the Soviet Ministry of Defense Archives. *Field Artillery and Firepower* by Jonathan Bailey has an excellent section on the use of artillery in the urban environment and deals with contemporary Soviet urban tactics. He does maintain though that "Artillery experience in [MOUT] since 1945 has been limited. Ironically the Soviets who have had none, have maintained a high degree of interest in the subject, based on their experiences in the Second World War" (1989, 75). The evidence of the first battle for Grozny

suggests otherwise, given the losses suffered by the Russians and their poor performance in urban fighting. Russian artillery equipment is also discussed in depth in Andrew Hull's *Soviet/Russian Armor and Artillery Design Practices: 1945 to Present*.

Numerous articles have been written regarding Russian artillery, particularly in the journal *Military Thought*. A brief yet incisive review of artillery in the first campaign in Chechnya was written by Major Gregory Celestan in *Field Artillery*. *Field Artillery* has also carried a number of articles regarding Russian artillery doctrine and interviews with key Russian artillery generals, several of whom have commented upon operations in Chechnya. The Russian military in general is widely written about, but one of the more recent and relevant publications is Anne Aldis' (editor) *Russian Military Reform, 1992-2002*, which encompasses the period of the majority of the fighting in Chechnya.

Other useful publications include: *Parameters*, *The British Army Review*, *Jane's Defence Weekly*, the *Journal of Slavic Military Studies*, and *Military Parade*. Nevertheless, no work exists on the use of artillery in Chechnya that covers the topic in any detail.

Military manuals pertaining to the use of artillery in MOUT do not go into any depth at all. FM 3-06, *Urban Operations*, is a comprehensive manual, but does not effectively cover the use of artillery in urban operations, nor does it indicate how to plan and train for it. JP 3-06, *Doctrine for Joint Urban Operation*, devotes only three pages to the subject of "fires." FM 3-06.11, *Combined Arms Operations In Urban Terrain*, devotes half a page to artillery employment. The British Army Field Manual, Volume 2, *Operations In Specific Environments*, Part 5: Urban Operations, does devote an annex to

the use of artillery in MOUT, but does not suggest procedures for dealing with a lot of the harsh realities of fighting in urban areas.

Significance of the Study

The future of war is not the son of Desert Storm, but the stepchild of Chechnya. (Glenn 2001, 61)

General (Retired) Krulak

The question can be asked, Why Chechnya? Simply put, the Chechnya conflict has seen the largest urban battles since World War 2. Secondly, the Russian military employed all aspects of conventional military forces in an urban environment and this presents the opportunity to learn how they operate and how forces could operate in such a scenario in the future.

Over the last decade and a half, the former “cold-war” superpowers have suffered strategic defeat in urban areas (Glenn 2001, 4). Significantly, both these defeats were at the hands of ad-hoc groupings of irregular forces. Grozny and Mogadishu were arguably tactical successes eventually, but the since the fall of Berlin in 1944 “half a century in time has altered the perceptions of victory” (Glenn 2001, 4).

The recent operations in Iraq have highlighted that urban combat in large cities remains a very stark possibility. Widespread urban fighting did not ensue in Baghdad, but that does not mean this will not happen in the future. The techniques for the use of artillery in urban terrain are specific and require practice and understanding at all levels. In a recent article in the *Armed Forces Journal*, Major-General (Retired) Scales states, “Experience in Iraqi Freedom suggests there is much to be relearned from experience with artillery in past wars” (2003, 48). The experience of the Russian Army in Chechnya is similar to what future encounters of the US and its allies may look like, that is, against

the full range of asymmetric threats. The encounters also demonstrate the advantages and disadvantages of a modern conventional force versus a well-armed and motivated insurgent force. Experience of artillery in urban operations is very limited in NATO and the same can be said for the US and UK. More recent examples for the US military are the Tet Offensive in 1968 in Vietnam and for the British Army, Haifa in 1948 and Egypt in 1952, during the Suez Crisis (Bailey 1989, 75). The most recent examples now include fighting in Iraq during operations in March and April 2003. Sadly, given its clear utility, the role of artillery in urban operations is largely ignored by NATO forces.

This thesis will layout the lessons identified from the experience of fighting in Chechnya. This knowledge is not just of use to artillery officers but also to members of staffs in battalions and at higher levels. Several theses and a good deal of writings exist on Chechnya, but none specifically with artillery issues. The lessons that will be drawn will ideally provide the groundwork for a revision of the practice of utilizing artillery in the urban environment. The thesis will also make suggestions as to how a modern army should train to be able to provide the requisite support to urban operations. Identification of current technological development trends in Russian artillery will indicate to a certain degree the responses to the fighting in Chechnya and where it is felt the order of battle is lacking. Given that the fighting in Chechnya is the only intense fighting that Russian forces have seen since Afghanistan, many of the recent equipment developments can be traced to the experiences of this fighting, thus allowing a certain “reverse-engineering” to occur to allow the lessons to be drawn out. Admittedly Russia learns many lessons second hand, but given the known doctrinal changes that have occurred since 1994 and the first Chechen war and the recognition of the need to fight “civil type wars,” the

assumption is made that equipment changes will match this redirection of attention to produce a workable capability.

The Russian Army found itself essentially unprepared for urban combat during the battle for Grozny in 1994 and to a certain extent in 1999. Possibly it hoped to avoid the phenomenon of “urban suck” and in many areas attempted to bypass and make deals with elders; failing this it shelled towns into submission. This approach proved very costly, particularly in Grozny. Avoiding urban combat by not preparing for it as the Russians did is clearly not the way to achieve success.

The specter of the Russian defeats in Chechnya should remind leaders of the cost of deploying unprepared forces for urban combat. Most militaries cannot afford to make this mistake; indeed, many governments would not survive similar mistakes.

CHAPTER 2

BACKGROUND

An Age-Old Story

Battles are won by superiority of fire. (Ritter 1968, 145)

Frederick the Great, 1768

The first part of this chapter will include a brief overview of the location and history of the Chechnya conflict. The second part of the chapter will examine the problems of using artillery in an urban environment and of Russian artillery doctrine pre-Chechnya. This makes it possible to examine how the decisions on the employment of artillery came about.

Figure 1 shows that the Russian republic of Chechnya is a landlocked republic located in the north Caucasus region. Situated at the very south of Russia, its neighbors are the Russian republics of Dagestan to the north and east, Ingushetia and North Ossetia to the west, and the country of Georgia to the south.

The terrain of Chechnya varies from thick woodland and mountains in the south to rolling steppes in the north. The republic is around 6,000 square miles in area (about one half the size of Wales). Chechnya has a great amount of natural resources in the form of oil and natural gas. These resources have been well developed and proved to be much of the impetus for the fighting. Grozny is the capital of Chechnya, and before the conflict it was estimated to have a population of just under 500,000 people.



Figure 1. Map of Chechnya

Source: Federation of American Scientists.

Available at www.fas.org/man/dod-101/ops/war/chechnya.jpg

In 1991 Chechnya's population was around 1.2 million persons, including 744,500 Chechens; 229,500 Russians; 21,000 Ukrainians; 15,000 Armenians; 10,000 Nogayans; 6,000 Tartars, and other nationalities (Global IDP Database 2003). Grozny in 1994 was a city covering an area of sixty-eight square miles. It comprised many high-rise buildings, suburbs, and industrial areas. The city was considered reasonably modern by Soviet

standards. It had a thriving industry which had grown as a result of oil exploration and the subsequent finds in the 1800s.

Origins of Conflict

The history of the Chechen conflict goes back many years. A basic understanding of the nature of the conflict is necessary to comprehend the battles that raged as part of the recent conflict. Full details are beyond the scope of this thesis, but can be found in Anatol Lieven's *Chechnya: Tombstone of Russian Power*.

Chechnya is primarily a clan-based or tribal Islamic society that has fought against Russia since the 1500s. Chechnya lies en route to the warm water ports of the Black Sea and the oil rich Caspian Sea and as such has been seen as desirable by the Russians. Since the first noted battle between the Chechens and the Russians in 1722, a myriad of battles have occurred between various Muslim warlords and the armies of the Russian Empire (Gall and De Wall 1995, 37). To establish local rule, a fortress was built on the site now known as Grozny, where six Chechen villages were destroyed in 1818 (Gall and De Wall 1995, 40). Despite the presence of the fortress, unrest and fighting remained. In 1865 Russia deported 700,000 Chechen and Ingush fighters and dispersed them in an attempt to quell the insurrections with this "final solution" (Knezys and Sedlickas 1999, 14). Russia drilled its first oil well in Chechnya in 1893, and just over a decade later around 14 percent of all oil drilled in Russia came from Chechnya (Knezys and Sedlickas 1999, 14). The apparent value of the area was perfectly clear to all.

Following the Russian Revolution of 1917, a number of administrative and district changes occurred, along with a forcible occupation of Chechnya in 1921 to

further impose Russian dominance. Two further revolts occurred, one in September 1920 and one in 1932. Both were brutally put down by units of the Red Army.

Another opportunity for freedom presented itself in 1944, when the German Army approached the Caucasus intent on seizing the area's oilfields. Seizing the opportunity to unite with the Germans against the perceived common foe, an uprising was staged but put down following the defeat of the Wehrmacht. Stalin inflicted serious retribution for what he saw as a treacherous revolt during war. 60 percent of all the inhabitants of Chechnya were deported, many being sent to Siberia. Of the 478,479 who were deported, 78,000 died en-route or soon after arriving. Thousands never made it to the trains at all (Lieven 1998, 319). The success of Stalin's deportation program has been put down to "a question of being consistently brutal and sufficiently deadly" (Baev 2000, 4).

The mention of Chechnya itself was wiped out and it did not appear on official maps until 1957. Stalin's retributions created a lasting memory in the minds of the Chechens. Most Chechens did not manage to return to Chechnya until 1957, when Khrushchev allowed them home after declaring an amnesty following the death of Stalin (Kenez and Sedlickas 1999, 15). The deportations only strengthened Chechen national resolve, and upon the return of the deportees many of the Russians who occupied the vacant land and villages following the exile simply left overnight, frequently in fear for their lives. Many other Russians living in Chechnya protested the return of the Chechen deportees to the extent that in July 1958 a riot occurred in which the railway station was seized and the Communist Party headquarters sacked. The Army eventually restored order (Lieven 1998, 323).

Following their return from exile, the Chechen population stabilized and grew at a tremendous rate. The average Chechen family soon had five children. This, compared to the Russian average of fewer than three, saw the population balance dramatically shift in favor of the Chechens.

The 1960s to the 1990s are seen as the quietest phase in Chechen history. The Soviet regime provided an improved standard of living and some semblance of contentment followed. Despite the improvements, Chechens were excluded from many industries (including the oil industry).

Islam continued to thrive in Chechnya despite the presence of only six official mosques in Chechnya; however, the unofficial following of “real” Islam as opposed to the state-sponsored variety was widespread (Seely 2001, 88). The Chechen people continued to grow stronger and still harbored the age-old hatred of the Russians. In 1994 then Chechen Vice-President Zelimkhan Yandarbiev cited the deportations in the 1950s as the reason Russia could never be trusted. Dr. Ilya Grinchenko (now a liberal sociologist in Vladivostok) sums up the mood in the 1970s; “By the 1970s the Chechens got the upper hand. When I returned to Grozny in 1974 from my military service, I saw how powerful the Chechens had become and I decided to leave. It was already clear that there was nothing there for Russians” (Lieven 1998, 323). Something was going to happen.

The demise of the Soviet regime continued apace in 1985 with the accession of Mikhail Gorbachev as secretary general of the Communist Party. His two key policies of *glasnost*’ (openness) and *perestroika* (restructuring) kicked off radical reforms. The openness provided many with evidence of the horrors of the Soviet regime, and

Gorbachev fell victim to the maxim that the most dangerous time for an evil regime is when it tries to reform itself. Despite firm opposition from hard-line communists and with little base of political support, Gorbachev continued with democratic elections. Boris Yeltsin secured 70 percent of the vote in the first-ever presidential election and insisted upon increasing the pace of democratization. Gorbachev was caught in the middle between the communist apparatchiks and Boris Yeltsin's call for quicker and greater reform. Eight members of the State Committee for the State of Emergency and the military made their own play for power on 19 August 1991 when they staged a coup d'état to stem the rise of democracy. Boris Yeltsin, along with thousands of supporters, engaged in a standoff with the military in Moscow. Given the choice of shooting civilians in order to enforce the coup or backing down, the military chose the latter. Gorbachev, who was held hostage by the state committee during the coup, resigned shortly thereafter and the dissolution of the Soviet Union soon followed.

In line with the reforms being generated in Moscow, Chechen political groups became more outspoken, and in November 1990 the All-National Congress of Chechen Peoples was formed and had its first meeting. Its policies included a declaration of Chechen sovereignty and an unwillingness to see itself as part of a Russian congress in any guise. The congress elected a leader, and a forty-six-year-old Air Force officer, Major-General Dzhokhar Dudayev, became the chief of the Congress. "He offered the combination of a military background and a set of beliefs" (Seeley 2001, 90). Many writings exist on Dudayev's motivations and what may have shaped his beliefs, but this area is beyond the scope of this thesis (Gall and de Waals' *Calamity in the Caucasus* goes into Dudayev in great detail).

Dudayev's rise to power was swift, and he made good use of the confusion in Moscow caused by the putsch. In October 1991, after a tumultuous eleven months establishing his position, he was elected president (with 90.1 percent of the vote from an estimated 72 percent turnout). A declaration of Chechen independence followed in November, and Dudayev began securing Russian weaponry stationed in the republic (estimates of the weapons seized are 42 tanks, 56 APCs, 139 artillery pieces, and over 24,000 automatic weapons). The Russian government declared a state of emergency in Chechnya, refused to accept Dudayev as president, and laid plans for an armed seizure of Grozny. The Russian government sent 600 Ministry of Internal Affairs (MVD) troops into Khankala airbase on the outskirts of Grozny. These troops were surrounded in a day, overpowered, and sent home on buses; the operation had been bungled. Interior Minister Komissariv traveled to meet Dudayev for talks and agreed to pull out the remaining Russian troops. The Supreme Soviet revoked the state of emergency. Dudayev had won a popular mandate as the man leading Chechnya's breakaway from Russia (Gall and de Wall 1998, 102). Importantly for the Chechens, the Russian Army left behind a sizeable quantity of weapons that would later be used against them. Dudayev "inherited" with the help of General Grachev 42 MBTs (with 9,770 shells), 38 IFVs (12,000), 28 APCs, 153 artillery pieces, 31,738 medium machine guns, 12,813 hand guns, 1,011 submachine guns, 138 rocket grenade launchers, 25,000 artillery and mortar shells, and 200,000 hand grenades (Knezys and Sedlickas 1999, 38).

From 1991 to 1994 "Chechnya was not so much an independent country as a twilight zone, neither inside Russia nor outside it" (Gall and de Wall 1998, 106). Support for Dudayev started to dwindle as the country began to suffer under a Russian economic

blockade. The black market and organized crime thrived. Many clans seized areas of land, and their leaders became de facto warlords. Fortunately for Dudayev, the new Russia was very weak and had pressing issues at home on which to concentrate before it looked “abroad.” Russia could not afford Chechen independence, given the mineral wealth of the area. Chechnya also contained the largest oil refinery in the Caucasus and was the lone producer of aviation fuel.

Chechen dissent to Dudayev was focused in the flatland clans and estimates put support for him at only “one third of the population with [him], two thirds against him” (Gall and de Wall 1998, 114). The power of the Chechens spread and began to influence the Caucasus to the extent that Russia could ignore it no longer. The Russian government was concerned that the departure of Chechnya from the Russian Federation would have a profound effect on the stability of the region. Foreign investment in the Caspian area began to slow as a result of the uncertainty and instability. Despite Russia’s attempts to enter into negotiations with Dudayev, little progress was made, as he based all factors around the condition of Chechen independence. For Russia, Chechnya was becoming a wedge, threatening to tear apart its territorial integrity (Knezys and Sedlickas 1999, 26).

Tentative support was established for the anti-Dudayev clans (mostly from the flatlands), which created the Provisional Soviet, a group that rivaled the Dudayev assembly. The Federal Counterintelligence Service, the Russian intelligence service, believed that Dudayev’s influence and power did not reach outside of Grozny (Knezys and Sedlickas 1999, 43). It was felt that by swift intervention into the heart of Grozny an anti-Dudayev force would soon control the city and thus be able to remove the Dudayev regime. Using Chechen “loyalists” and hired Russian soldiers, a force was put together

with the aim of driving into the center of Grozny and seizing key facilities, including the president, who it was assumed would either be jailed or would meet the same fate as Hazifullah Amin in Kabul several years earlier--a swift execution. It was assessed that only a small force would be needed to do the job (Knezys and Sedlickas 1999, 43-45).

The mission was an unmitigated failure. Dudayev was warned of the impending assault and the Chechen forces were ready. The pro-Russian Chechens, supported by Russian troops (allegedly covertly), moved into Grozny on 26 November 1994 and soon reached their objectives after encountering light resistance. Dudayev's military strategy had been to let them into the city and then strike them. The Chechen forces struck hard on the deployed columns, using antitank weapons and petrol bombs. By mid afternoon they had regained control of the city center, and reports stated they destroyed or captured forty-nine armored vehicles and shot down four helicopters and one aircraft, as well as killing 300 opposition fighters and capturing 200 (Knezys and Sedlickas 1999, 49). The Russian government flatly denied involvement in the action. Defence Minister Grachev described the events as an "internecine struggle," going on to say that "I would never have allowed tanks to enter the town since it is totally unprofessional" (Seely 2001, 169). He later added, "If the [Russian] army had fought, we would have needed one parachute regiment to decide the whole affair in two hours" (Gall and de Waal 1988, 27). Boris Yeltsin was politically embarrassed by the event and the ensuing dilemma again raised the question of political recognition of the Dudayev regime.

On 29 November a Security Council meeting confirmed a Yeltsin decree ordering the use of force and the removal of the Dudayev regime. Some council members expressed reservations, but Grachev convinced many that the military could suppress

Dudayev “in the shortest period of time” (Seely 2001, 170). The journey towards a full-scale military intervention had begun.

Artillery Tactics and Doctrine

Chechnya presents many problems for the artilleryman. As far as terrain is concerned, much of the area is mountainous, and there are numerous large forests and woods. The presence along with this of a sizeable number of small towns, plus the city of Grozny, makes the problems very diverse. Fighting in mountains and forests presents unique problems, but not in the way that fighting in urban areas does. Urban fighting presents to the artilleryman one of the most difficult situations to deal with. Urban fighting is characterized by decentralized fighting, short-range engagements, a high reliance on human intelligence (HUMINT), difficult communications, limited maneuver space, three-dimensional terrain, significant presence of noncombatants, collateral damage, and high operational tempo, to name but a few factors. Enemy forces can make extensive use of fortified buildings with cellars, often linked by tunnels. This makes the problem of spotting the enemy extremely difficult.

The strength of some buildings often negates weapon effects, unless a direct hit is scored, and even then destruction is not always assured. Limited visibility makes observation and adjustment of fire difficult.

Battle damage assessment is just as difficult for the same reasons. Buildings provide a cushioning effect that virtually negates the use of sound ranging thus making the task of the detection of enemy artillery systems fall to radar systems, which being active and not passive, are themselves vulnerable to detection. Figure 2 illustrates the multidimensional aspects of fighting in urban terrain.

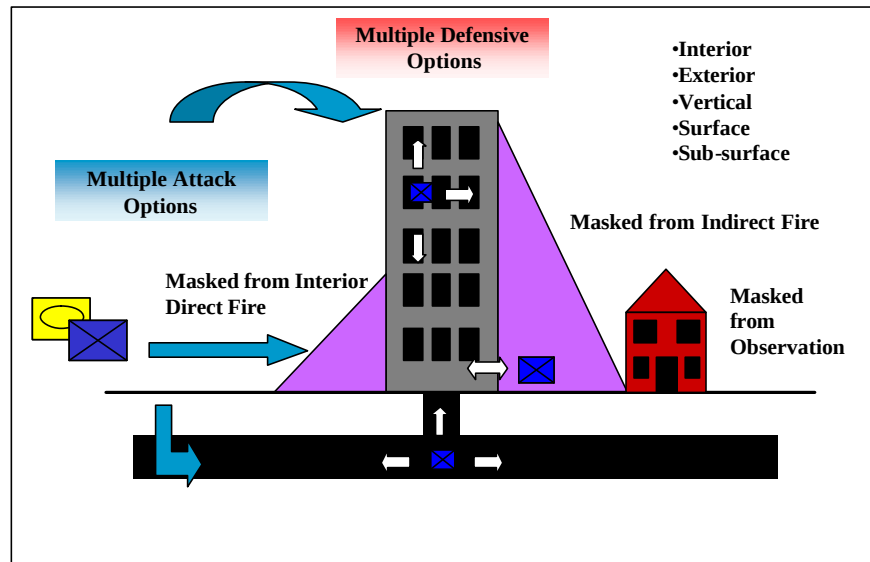


Figure 2. The Multidimensional Combined Arms Problem

Source: Infantry Urban Operations Presentation, Fort Benning, Georgia, 2001.

The general confusion and obscurity that occur in confined spaces further add to the confusion of a difficult style of fighting. In the Second World War, Russian forces created the concept of the “storm group.” Realizing that urban fighting quickly degenerates to small unit actions, the Russians grouped artillery as part of the storm groups to provide direct fire support. This gave the groups significant firepower, and the use of direct fire allowed the groups to overcome some of the observation and communication problems that they faced. 40 to 80 percent of gun artillery was used in direct fire in the Second World War (Bellamy 1986, 204), and the Russians had specific techniques to deal with strong points involving massing batteries for direct fire from as little as 150 meters away. One useful technique developed was the adjustment of fire

from aerial registration points using airburst shells. This proved its use when engaging close targets or bringing fire down on one's own position, which happens often in fighting in urban areas (Bellamy 1986, 204).

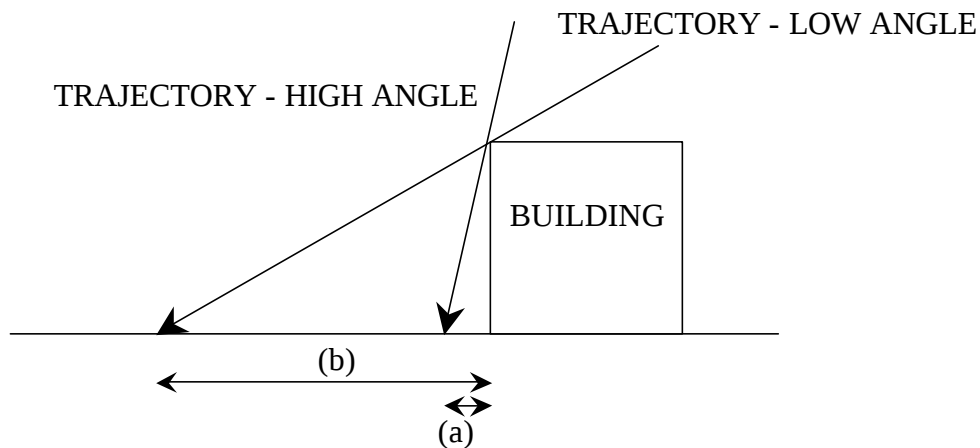
Other difficulties arise when using artillery in urban fighting. Verifying the locations of friendly forces to prevent fratricide can be very difficult. This can be achieved by the grouping of artillery observers with maneuver units to ensure coordination and calls for fire when necessary. Artillery fuses need to be set to delay to avoid going off on contact with building roofs and not delivering the necessary effects to the target further in the building where desired. The use of unguided artillery, by its very nature, is never totally accurate. Planning estimates for ammunition expenditure should include considerations of the problems that arise because of range probable error (PE), where only one-half of the rounds fired on the same data can be expected to fall within one range PE of the intended target. This means that when firing indirect fire into built-up areas with tall buildings, "[i]t is necessary to double the normal ammunition expenditure to overcome the problem of a reduced target area and range PE" (AFM Vol 2 Pt 5 2002, A-6-4). This factor in itself can pose logistic and rules of engagement (ROE) problems.

The secondary effects of the use of artillery are crucial considerations to be borne in mind. Inaccuracy and the possibility of producing collateral damage are the biggest weaknesses of artillery. The effects of artillery not only can lead to the destruction of men and property, but also hamper the fighting itself due to the dust and rubble created. Artillery can easily alienate the civilian population, strengthen the resolve of the enemy, and provide sufficient material for the media to generate stories and sympathy for neutral

civilians and even adversaries. Transitioning from combat to stability or support operations often needs to be very quick, as does the transition back to combat.

Communication in the urban environment has traditionally been very difficult. The clutter of urban terrain masks signals and reduces the effective range of radios. Procedures need to be adopted to ensure the artillery “system” has a robust and reliable communications network.

Urban fighting produces the issue of “artillery dead space,” which results in a potential safe area for the enemy. This can be mitigated by using high angle fires, but this increases vulnerability to detection by enemy counterbattery systems (figure 3).



- (a) Dead Space in High Angle = Approx. Half Building Height
- (b) Dead Space in Low Angle = Approx. Five Times Building Height

Figure 3. Indirect Fire Deadspace

Source: British Army, Army Code 71632, Army Field Manual, *Operations in Specific Environments*, Vol. 2, Part 5 (Upavon, Wiltshire, United Kingdom: DGD&D Publications Section, 2002) A-6-7.

The *Soviet Military Encyclopedia* describes artillery in three ways: an arm of service, a type of weaponry, and the science of making artillery weapons and their employment on the battlefield, embracing tactics and operational art (Bellamy 1986, 7). Russian doctrine implies that the effective suppression and neutralization of the enemy is critical to success. It states that the “destruction of up to 30 percent of all enemy personnel and weaponry in the target area is the norm required for destroying a defending enemy” (Army Field Manual 2000, C-5-2).

One issue that plagues the Russian military is a lack of interarm cooperation, which arises from either the artillery officers’ lack of tactical maturity or the all arms commander’s failure to appreciate the subtleties of what artillery can do for him (Bellamy 1986, 207). Lack of knowledge on the part of either party can lead to difficulties in the coordination of battles. Bellamy argues that this fact was well recognized even in 1986, and that measures had been suggested to redress the issue. To overcome some of the complexities of war the Russian (Soviet) military based its “science” of troop control on two principles: unity of command (*edinonachalie*), which is seen to be the flow of information down, and interaction (*vzaimodeistvie*), which is seen to be the flow of information horizontally between commander and other services (Van Dyke 1996, 691). Idealized for the terrain of Central Europe, this “philosophy” would not hold under the terrain and conditions of fighting in the Caucasus. Despite the observations and on the surface common sense procedures, there appeared to be a complete lack of knowledge regarding these procedures during the first battle for Grozny. Lessons from Afghanistan, whose terrain and fighting conditions were comparable in many areas to those of

Chechnya, should also have been readily applied by the Russian Army, given the fact the withdrawal from Kabul had only ended in 1989.

Traditional Russian tactics rely upon artillery not only as combat support but also as a provider of shock to assist in the demoralization and breaking of an enemy force. In essence the military philosophy of the Russian Army is to use maneuver to exploit the effects of fires. The crushing effect of artillery fire on morale is, therefore, as much a part of fire destruction as its physical effect on people, in destroying equipment, cutting communications, and blinding target acquisition (Bellamy 1986, 174). Historically, Russian artillery has been used with great effect, notably during the Second World War on the Eastern Front. Analysis of many of the actions in Second World War attributed the destruction of 80 to 90 percent of the targets in the tactical zone to artillery (Celestan 1997, 42); hence the name “God of War.”

The Soviet military had much experience in urban operations, particularly in the Second World War. Critically, many misunderstood the correct way to use artillery in urban environments, that is to play to its strengths. Despite the perceived power of artillery it is well realized that “fires alone, without maneuver, will never be able to achieve operational objectives. It’s impossible” (Hollis 1993, 12).

During the Second World War, several strongly fortified cities were assaulted, including Berlin, Breslau, and Königsberg; and in total the Russian Army freed some 1,200 cities from the German Army (Raevsky 1995, 682). The doctrine involved included the use of methodical, consistent preparations and the systematic destruction of pockets of resistance. “Much of the experience gained is relevant today” (Bulatov 2001, 1). The Battle for Berlin, if correctly studied, would have yielded many of the lessons the

Russians would have needed for fighting in Grozny. In the Second World War, the German and Soviet Armies had rough equivalence of heavy weapons; in Grozny the Russians had total superiority (Lieven 1998, 109).

As it turned out “two [unnamed] colonels from the Russian General Staff visited the State Military Historic Archive in Lefortovo at the end of November 1994 with an official request from the Ministry of Defense to learn more about the historical context of the armed conflict in the North Caucasus” (Belkin 1995, 4). It appears little reference was made to information on urban fighting. In the attack, Russian tactics require units to use stereotyped battle drills with the emphasis on speed, command and control, and simplicity, prompting the quote “Doctrine offers little room for individual initiative” (Bellamy 1986, 207).

Russian doctrine for operations in urban areas seeks to make best use of speed, and if the perception is that the enemy is unprepared, then “deployment from the line of march” is best suited. This approach was seen often in the Cold War in cities such as Prague and Budapest. Where cities are well defended, Russian doctrine called for encirclement followed by bombardment and combined assault. The doctrine was aimed at war fighting and high intensity conflict and appeared to make no mention of peacekeeping or “internal policing” type operations as Chechnya became known.

CHAPTER 3

THE BATTLES

The most important single lesson learned from World War Two experience of Operations in Built up Areas (OBUA) is to use machinery rather than men. The cost of doing it any other way continues to be indicated by instrumented exercises. In today's climate of opinion as affecting casualties, the only alternative to acquiring specialist equipment for OBUA may be to abandon the idea of fighting a serious enemy in an urban environment. (1999, 67)

Jary and Carbuncle

The Condition of the Russian Military

The context in which the Russian military operated in 1994 needs to be mentioned briefly to allow for an accurate assessment of its performance over the period in question. With the exception of the Communist Party, no institution suffered more from the dissolution of the USSR than did the Soviet Armed Forces (Seeley 2001, 219).

The Russian Army in December 1994 was a shadow of its former “Soviet” self. At its breakup, the Soviet Army had over two million troops under arms and contained 210 divisions. “The Soviet Union remained the predominant land power in the world” (Orr in Aldis 2003, 124). By 1994, military funding was severely restricted, which had a direct effect on its effectiveness. Equipment was poorly maintained, and in many cases there had been no real investment in equipment since the conflict in Afghanistan. Many units went unpaid for months at a time, and, having returned from Eastern Europe to paltry facilities and possibly tents to live in, morale was understandably low.

Training was one of the areas where attempts had been made to economize significantly. The Army had not conducted a divisional- or regimental-scale field training exercise since 1992, and most battalions were lucky to conduct field training once a year.

Training in urban combat did not occur. Summing up the level of training, General Lev Rokhlin (Commander of the 8th Guards Army Corps of the North Caucasus Military District) was fiercely critical of Yeltsin and his decision to commit the military: “Pilots don’t fly, tank drivers don’t drive military vehicles and the infantry don’t have shooting practice. You bear a personal responsibility for unleashing the war in Chechnya; and having made it, you abandoned the army” (Lieven 1999, 298).

Conscription was a large problem for the Russian Army. Most battalions were manned at 55 percent or less (Federation of American Scientists 2003) and, as such, had only limited utility. The scheme was unpopular and did not appeal to Russian youth. Many refused to show up for military service. According to a 1996 Russian MOD report, such personnel deficiencies meant that only about ten of Russia's sixty-nine ground force divisions were prepared for combat. It is estimated that a quarter of draftees had not completed secondary education, and a fifth had criminal records. It is also debatable how effective these “recruits” could become after a short training period. In September 1996 General Rodionov (then serving as the Russian Minister of Defense) estimated only 30 percent of equipment was of the latest design--the rest he considered obsolete (Lieven 1999, 278). The Army also had a terrible reputation for terrorizing recruits in “hazing” ceremonies (*dedovshchina*), which led to high desertion and suicide rates.

The scaling down of Russian forces and the changes in the contemporary operating environment were not reflected in its doctrine. Ground forces remained preoccupied with the concept of large-scale conventional warfare, possibly involving nuclear warfare. “Counter-insurgency, peacekeeping and other tasks did not feature in Russian military education” (Orr in Aldis 2003, 125). It is in this climate of

underfunding, low morale, undertraining, and outdated doctrine that the Russian military was instructed to conduct operations for the capture of Chechnya.

The First Battle for Grozny

Urged on by history, it was with a certain arrogance that Russian troops attempted to enter Grozny in December 1994. The history of “lightning wars,” such as the occupation of Poland and the Baltic States in 1939, as well as the direct interventions in East Germany, Hungary in 1956, and Czechoslovakia in 1968, gave the Russian Army a false perspective. Too easily, it has been suggested, they had forgotten some of the hard-earned lessons of World War Two and Afghanistan in the 1980s that would have been well put to use in Chechnya.

The force put together for this operation included forces from the North Caucasus Military District (NCMD), the Border Guards, the Foreign Counterintelligence Service, and the Ministry of Interior (MVD). The staff at the NCMD was given the task of command and control for the operation, a task it was ill trained and ill prepared to deal with.

The initial plan to assault and seize Grozny was developed by General Grachev (then Minister of Defense) and was inspired by the Soviet coup de main against the ruling forces in Kabul in 1979. Military planners were under huge time and political pressure and were faced with two main choices: a huge artillery bombardment as a preparation or a rapid ground invasion. Eduard Vorobyov, a Colonel-General who worked on the invasion plans, stated: “We would be shooting into the fog, essentially destroying civilians. This is a terrible crime. Artillery also requires reconnaissance operations, but the weather made that impossible as well” (Seeley 2001, 223-224).

The plan was comprised of four phases. Phase one was the isolation of Chechnya, phase two the capture of Grozny, phase three was to be the clearing of the southern lowland areas and finally, phase four aimed to clear the mountains to the south of Chechen fighters. In phase one, Border Guards and MVD troops would surround the country and isolate it. Three separate advances would then make their way into Chechnya. One advance was to proceed southeast from Mozdok in North Ossetia, one east from Vladikavkaz in North Ossetia, and the last west from Dagestan. The advances were timed to coincide with negotiations with the Chechens, although many felt the talks futile, given Chechen rhetoric and posturing.

The next phase of the operation was to move into Grozny and secure key infrastructure assets. Russian forces would then push south and clear the lowland areas while a pro-Russian government was established. Finally, forces were to clear any remaining fighters from the mountains in the south. The Chechen Chief of Staff, Colonel Maschadov, stated early on they had been given no alternative but to fight: if necessary they would “give up Grozny and take the fight to the mountains and fight a partisan war there” (Knezys and Sedlickas 1999, 71). Figure 4 shows the three converging advances.

The Chechen Air Force was destroyed on the ground in just two days and the Russian Air Force then engaged in a bombing campaign against specific targets. Key areas targeted were the airbase at Khankala and key facilities in Grozny itself. The nature of this bombing appeared indiscriminate and resulted in a number of civilian casualties. “The bombing appeared to have little military sense apart from terrifying Grozny residents” (Seeley 2001, 223).

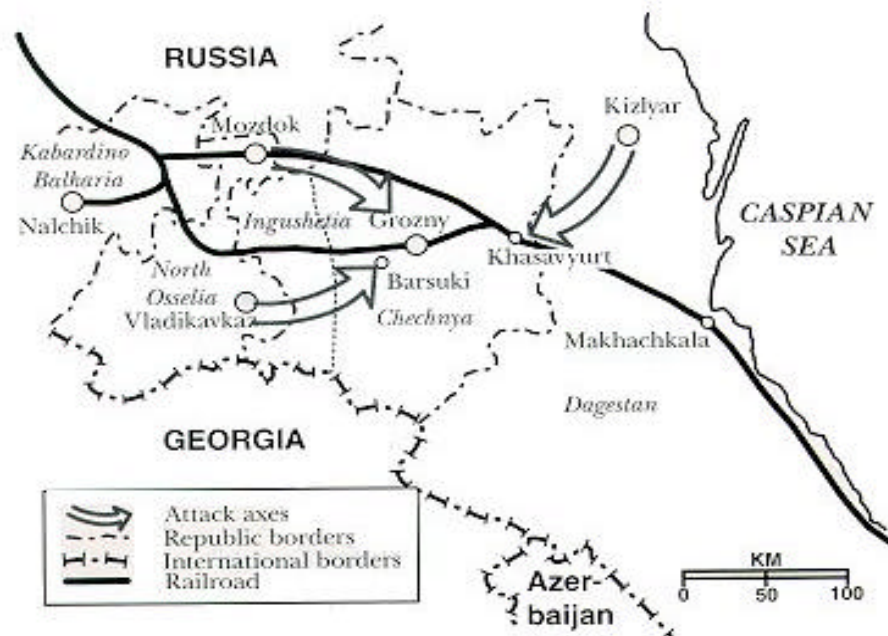


Figure 4. The Invasion of Chechnya 1994

Source: Federation of American Scientists.

Available at www.fas.org/man/dod-101/ops/war/chechnya.jpg.

The movement of military forces on the three axes did not go well. Protestors in many villages well away from Grozny stopped convoys in their tracks and refused to let them through. Many fights ensued, resulting in losses to both sides and in one instance the loss of sixty-eight Russian combat vehicles (Knezys and Sedlickas 1999, 72). In all it took two weeks, against an original estimate of a few days, for forces to be postured around Grozny. The element of surprise was lost and Dudayev's forces were ready. (Arguably the Chechens had been preparing for this invasion for two years and had ample time to prepare the city for the Russian forces. Any remaining elements of tactical surprise were also lost with the delayed approach.)

In terms of force structures and numbers involved in the conflict, estimates do vary, particularly on the number of Chechen fighters. Table 1 shows initial force numbers and ratios according to information developed by Raevski.

Table 1. Initial and Subsequent Force Ratios

	Russian	Chechen	Ratios
Soldiers	23,000	45,000*	0.5 : 1
	38,000	45,000	0.8 : 1
Tanks	80	50	1.6 : 1
	230	50	4.6 : 1
APC/IFV	208	100	2 : 1
	454	100	4.5 : 1
Artillery	182	100	1.8 : 1
	388	100	3.9 :1

* This figure is based on the 15,000 “regular” forces and the lowest estimated 30,000 “paramilitary” forces. Author’s note: The figure of 45,000 for the Chechen fighters quoted here is substantially higher than any other writer has quoted. Consensus puts the figure at 15,000 to 20,000. It has been left in to highlight the lack of factual evidence to support the number of *actual* Chechen fighters in Grozny.

Source: A. Raevsky, “Russian Performance in the Chechen War: A preliminary Assessment,” *The Journal of Slavic Military Studies* 8, no. 4 (December 1995): 34.

In terms of artillery support to the three advances, the groupings had the following: four self-propelled (SP) artillery battalions (2S1 and 2S3), four battalions of rocket launchers, three antitank batteries, and two howitzer batteries (D30) (Capital Preservation 2000, 33). The artillery grouping command, as part of the ground forces, was subordinated to the artillery and missile commander of the NCMD. Control was exercised over one radio channel that was shared with air defense command. No capacity for data transfer existed. Primary missions for the artillery included the following: fire support of combat operations by combined arms formations; fire support of assault

groups and eventually storm detachments; interdiction of maneuver by gunmen; fire blockade of enemy formations in certain areas; illumination of territory with the aim of reconnaissance and subsequent effective engagement of targets; counterbattery fire; and destruction of enemy groups and detachments (Karatuyev 1998, 42).

The plan to assault the city itself was written very quickly under time pressure. Realizing initiative had been lost, preliminary assessments were made of the defenses of the city. Defense Minister Grachev personally visited the outskirts of Grozny and relieved many of the commanding generals in the NCMD for the slow pace of the operation. This did nothing to reinforce the cohesion of the commands. The delay in reaching Grozny in effect meant that the city never fell under a total blockade until very late in the campaign, thus allowing the movement of Chechen forces and supplies into the city to continue.

Chechen preparations were meticulous. Three rings of defenses (according to the Russians) were constructed in and around Grozny. Buildings were fortified, cellars strengthened and firing positions for artillery established to allow direct and indirect engagements. The sewers and tunnels were prepared to allow rapid and hidden movement of soldiers.

The mechanics of the Russian assault involved troops encircling the city, with the fewest troops concentrated in the south, and then storming it from three sides. Special designation troops (Spetsnaz) were to seize the presidential palace, government buildings, railway station, and other critical nodes. The aim was to do this without harm to civilians or damage to buildings. The aim to complete the operation as quickly as possible negated

the ability for a thorough reconnaissance, which led to poor tactical intelligence about what lay ahead.

Russian doctrine states that reconnaissance should reveal 70 to 80 percent of enemy locations (Dimidyuk 1995, 3), but given the preparations of the Chechen forces and the need for speed imparted on the Russian forces, this did not and could not occur. Russian forces believed, thanks to their intelligence, that the Chechens would be overwhelmed by a swift armored attack (Army Field Manual 2002, C-5-1). The advance into Grozny continued on 18 December and made reasonable progress. Grachev, pleased with the results, went back to Moscow. In the meantime, Grozny had been subjected to a sporadic, but fairly heavy bombardment that hit no targets of significance (assuming it was meant to, and was not just intended to terrorize and demoralize the civilian population), but which killed hundreds of civilians - most of them Russians, thus outraging the public in Russia and the West (Lieven 1998, 107).

The four-axis assault into the center of Grozny initially met only light resistance and made very good progress in certain areas. Critically, what the Russians failed to realize was they were being let into the city. Here their advantages in terms of firepower would be reduced to allow a more level playing field. Once the Russians were suitably entwined in the city, the Chechen fighters struck the armored columns front and rear to trap them using a mixture of rocket-propelled grenades (RPGs) and petrol bombs. Snipers shot those who fled the vehicles, while those who stayed with the vehicles burned. Attacking from many directions, above and below ground, the Chechens started an intense panic amongst the conscripts, many of whom did not even know where they were going or what they were doing. A total lack of coordination in the Russian units led to

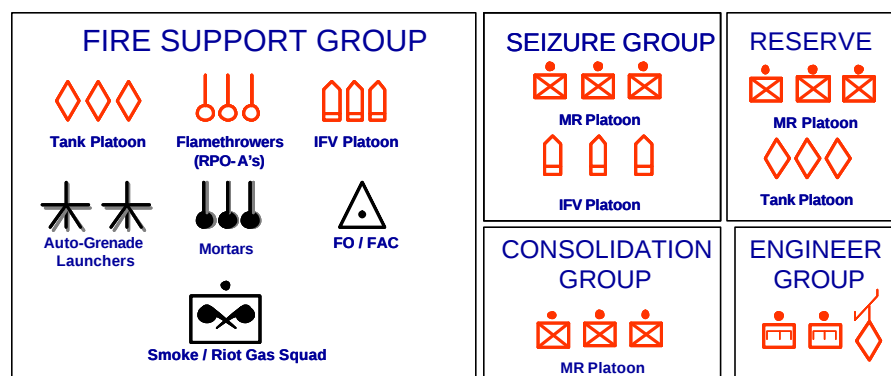
confusion and incidents of fratricide were common. Rapidly put together groupings and a lack of common operating policies further hindered operations. Armor-heavy convoys without sufficient dismounts were easy targets for the Chechens. Of note was a battalion of the 131st Brigade, which made it to the railway station in the city but was then systematically destroyed. In total the Russians suffered 1,000 killed, seventy-four captured, twenty of twenty-six tanks destroyed or captured, 102 of 120 BMPs destroyed or captured, and all six ZSU 23-4s destroyed. The brigade commander was later found with a bullet hole in his forehead (Knezys and Sedlickas 1999, 101). By the end of the day on 1 January 1995, almost one in ten Russian soldiers had been killed, and more than half of the armored vehicles had been destroyed.

The utter failure of the first assault forced a rethinking and change of the operational plans and employed tactics. Highlighted as the critical phase of the operation and given the low morale, losses, and desertions, rapid work was needed here to prevent operational failure.

Reinforcements of better-trained forces, namely Marines (nine battalions), Spetsnaz, and more MVD troops, flooded into theater. To support increased efforts, more supplies and equipment were also flown in, including “ninety tons of munitions from the Northern and Baltic Naval Fleets alone” (Knezys and Sedlickas 1999, 110). Once regrouped and reorganized the Russians moved under what was described as one of the most intense bombardments of recent times. The center of Grozny was hit very hard and precision strikes by penetration bombs were carried out on the palace, where the last remnants of the Chechen force were holding out.

The concept of the infantry storm detachments soon became apparent as the only means by which the Russians were going to crack the “Chechen nut.” This way it would be possible to establish strongholds from which to clear the city building by building. The experience in Afghanistan of the *bronegruppy* (armored groups) and the similar ideas used in Stalingrad and Berlin in World War Two laid the basis for the operation of the storm detachment. “A storm detachment was an infantry battalion equipped with a tank or engineer platoon, two mortar batteries, smoke generating equipment, a howitzer battery and one or two divisional artillery batteries”(Van Dyke 1996, 701). Detachments were divided into six storm groups. Of note from an artillery perspective was the direct support given by guns to these detachments. Guns moved with the groups and engaged targets, often using direct fire to produce lethal effects. Grouped with these guns were often ZSU 23-4 antiaircraft guns, which, with the artillery, offered the ability to elevate to higher angles than tanks, thus allowing engagements of higher buildings.

Figure 5 shows the breakdown of a storm detachment.



(Supporting direct and indirect fire assets not shown)

Figure 5. The Assault Group

Source: Wagamon, E., Lessons from Chechnya: Tactical Threats to the Soldier System. National Ground Intelligence Centre power point presentation.

These detachments proved very difficult to control, given the inexperience of many of the officers in the battalions. The nascent nature of the groupings was not conducive to effective operations. Added to this were poor communications and an almost total inability to coordinate fire support assets. During this time, Dudayev moved his headquarters out of the as yet unsealed perimeter of Grozny to the south, some twenty-five kilometers. Eventually, the perimeter of the city was sealed and the Chechens re-established a front south of the Sunzha river. Heavy artillery bombardment and air strikes eventually forced them off this piece of terrain and further south.

Despite Boris Yeltsin claiming success on 19 January, it was not until 7 March that the Russians could claim full control over Grozny (Faurby 1999, 81). Many estimates exist for the casualties of taking Grozny. Casualties were high and some estimates put the total dead at 27,000 and the number of displaced persons at 268,000 (Faurby 1999, 81), with 1,146 Russian soldiers killed and 374 missing (Lieven 1998, 111). In late January, control of Chechnya was transferred from the military to the MVD, under the command of Colonel General Kulikov. “For the Chechens an outright military victory was unlikely, so their goal was to inflict as many casualties as possible on the Russian people and erode their will to fight. The Chechens used an ‘asymmetric’ strategy that avoided battle in the open against Russian armor, artillery and air power. They sought to even the fight by fighting an infantry war. Time and again, the Chechens forced their Russian counterparts to meet them on the urban battlefield where a Russian infantryman could die just as easily” (Edwards 2000, 28)

Reports on the state of the Russian artillery during this time are mixed. Clearly it suffered the same problems of lack of experience as everyone else did, but “the Russian

artillery fire was no more accurate than the Russian bombing” (Lieven 1999, 113). Typical of the lack of coordination were sightings of Chechen guns and mortars firing day after day from the same positions into Grozny, clearly content they were not under any threat of counterbattery fire. As a veteran French war correspondent put it “But the Russians have equipment to track where mortars fire from, every modern army has it, that’s why you keep moving around. What are they playing at?” (Lieven 1999, 113). Many reasons are espoused for this failure ranging from broken equipment to lack of training; potentially poor morale could explain much of this, as performance did not increase as the war progressed (where clearly the level of training, competence, and hopefully repair would increase). The Russian inventory included fire direction radars such as the 1L219 “Zoopark,” but no evidence has been presented to suggest they were used to locate Chechen guns or mortars (Celestan 1997, 44).

The Chechen fighters moved into the towns to the south of Grozny and further south to the foothills of the mountains once they had left Grozny. The Russians pursued them slowly by way of a positional war, clearing each settlement systematically, often by heavy shelling, before entering. The brutality of the clearing of many of the smaller towns in the flatlands caused much controversy. The reports of human rights abuses have been refuted by the Russian authorities but eyewitness accounts from villages and towns like Argun and Samashki, for example, say otherwise.

By the end of May 1995 the Russians were putting heavy pressure on areas of the Caucasus foothills, particularly the villages of Chirir Yutr and Serzhen Yurt. Chechen resistance was at its lowest ebb here (Lieven 1999, 123), and this preceded the symbolic

event of the seizure of the hospital in Buddenovsk, the consequences of which were far reaching.¹

The Interconflict Period 1995 to 1999

Key changes to Russian military doctrine occurred in 1995 to 1999, driven largely by the General Staff reflecting on observations of operations in Chechnya, as well as observations of the NATO operation in Kosovo. The new system emphasized “war-fighting” rather than “operations other than war” and crucially the same policy was focused against all foes, be they external or internal. “The focus [of change] has been on technical problems of command, such as organizing the application of fire at operational and tactical levels of command” (Aldis 2000, 84).

In between the two major Chechen conflicts, much work was undertaken by the Russian military to examine why things had gone so badly wrong and what could be done to rectify the problem. Doctrinally it was recognized, that, unlike previously, direct aggression toward Russia was not foreseeable. “Local armed conflict,” though, was now seen as a major threat to security (Aldis 2003, 132).

Of key note in the lessons identified, was the fact the majority of casualties had occurred at close quarters. One stated tactical change was the “aim to minimize casualties by fighting at maximum range” (Aldis 2000, 92) and playing to strengths (material) while avoiding weakness (the human side).

A revamp of the system of allocation of fire units and the way in which they were employed was undertaken. The original centralized system gave way to the doctrine of “long range fire destruction” of the enemy, which allowed greater flexibility planning engagements and passing information. This in turn transformed to the “zonal territorial

method,” which saw further decentralization of assets and responsibility. The key enabler to this was the ability to fight at as long a range as possible and inflict as many casualties as possible before “closing with enemy” became necessary.

Traditional Russian tactics for the employment of artillery revolved around the key doctrine of centralized control. This doctrine had been formulated as a result of the experiences of the Great Patriotic War and refined for a major conflict against NATO. The new tactics were quickly adapted for a local war against the so-called Chechen “terrorist forces,” who possessed few heavy weapons of their own. The tactical changes adapted for the second Chechen conflict are highlighted in an article by Colonel General Karatuyev (Commander of Rocket Forces and Artillery Troops, Russian Army, 1999) in “The God of War Changes Tactics” (Aldis 2000, 92). The traditional approach saw the concentration of assets under the command of the higher formation commanders. This gave the resultant flexibility needed at the operational level (as needed in the Great Patriotic War and possible war against NATO). Tactically though, this produced a system that was unresponsive to a fast moving terrorist or insurgent type enemy, which clearly did not produce sufficient tempo to give the results necessary. In the first war, the slow response of artillery gave Chechen forces the incentive to speedily enter the close combat zone, that is, within 300 meters of the Russian forces. “Within that space Chechen forces ‘hugged’ Russian forces to avoid Russian supporting artillery and air strikes while Chechen small arms and RPG fire exacted a blood tax on those same Russian forces” (Aldis 2000, 101). Clearly something had to change.

General Karatuyev describes the new system as the “zonal territorial method” developed for use in “counterterrorist operations” as follows:

The zonal territorial method envisages that every troop entity from battalion upwards will have a defined zone of responsibility for reconnaissance and fire destruction, which will be controlled by the corresponding combined-arms commander. As a result inertia is reduced and decentralisation is feasible. Lower level commanders can develop possibilities of showing initiative and using artillery more actively in the interests of their own sub-units on the one hand and on the other they bear increased responsibility for the results of the fire plan. (Aldis 2000, 93)

This system is more akin to what is utilized in NATO artillery doctrine. The decentralization gave individual battalion commanders at least one battery in direct support and at higher levels; formations received a mix of rocket and tube artillery, thus giving them wide-ranging flexibility. The decentralization of fires was a major change in Russian tactical doctrine. To also improve firepower available, the number of forward air controllers was increased dramatically with the eventual aim of providing them down to company level (Aldis 2000, 91).

A key government policy had changed with regard to Chechnya concerning collateral damage and the loss of civilian lives. In 1996 Colonel-General Dimidyuk (Commander of Rocket Forces and Artillery Troops) stated that: “The main problem of fire support in Chechnya is that the situation is very complicated; we can’t employ artillery to its full capacity. The Chechen population is mixed - guerillas live next door to peaceful people. That’s the only problem” (Hollis 1996, 9). By 1999, the issue of civilians living next door to guerillas was clearly less of a concern; Dimidyuk went on: “I have something to say to [American] artillerymen. You have to fight terrorists cruelly. Terrorism doesn’t have a place on earth. Terrorism has to be stopped” (Hollis 1996, 9).

Cutbacks in the Russian military and a shortfall particularly in artillery officer training were manifested in the course of the armed conflict in the Northern Caucasus. Unfortunately for Russia, the breakup of the Soviet Union left the majority of the artillery

schools outside Russia. This created a teaching and training gap that took several years to overcome and clearly had an impact on effectiveness in Chechnya. Artillery officers at a variety of levels could not operate effectively, particularly in command and control, weapon matching, fire control, force protection, or organization of reconnaissance (Zaritskiy 2002, 2). Estimates as to the effectiveness of the use of artillery yielded facts that only around 30 percent of weapon capabilities were fully utilized. This therefore increased the amount of friendly casualties due to the failure to deliver weapon effects at the right time and place and the unnecessary prolonging of operations.

Indicative of the “about face” towards training was the renewed emphasis shown towards it. In 1997, for example, around 10 percent of the military budget was spent on training (Main 2000, 7). To overcome the apparent training shortfalls the NCMD established a training facility at Mozdok to prepare units for operations in Chechnya. The range allowed the firing of weapons, practice with vehicles, and a limited amount of training in buildings. While no panacea, it was a step in the right direction.

Command and control, which was so severely lacking in the first conflict, was thoroughly reexamined. A joint headquarters was established and numerous large command post exercises were carried out to improve interoperability and overcome some of the friction that existed between the various ministries and departments. Maneuver exercises with up to 15,000 troops followed and aimed to further refine procedures.

Regarding the quality of individual troops and their lack of experience, measures were taken to prevent the deployment of new conscripts into conflict in the first year of their service. This proved to be untenable and was dropped to only cover the first six

months of service. Nevertheless, this change, along with improved individual training, made a large difference in the quality of soldiers.

Resources were still very constrained and many felt that, despite some key changes, not enough had been done to rectify the training deficiencies present in the Army. Little, if any, urban combat training was carried out. “The lack of urban training focus was not a mistake . . . training for urban combat was deemed to be a waste of money” (Oliker 2001, 38).

The Second Battle for Grozny

By October 1996 the Russian military had completely withdrawn from Chechnya. Despite Russia’s holding the majority of the territory, armed Chechen groups operated with impunity and the number of Russian casualties constantly increased. The killing of President Dudayev in April 1996 possibly spurred on the resistance, and in August 1996 a large Chechen force entered Grozny and caused some 1,800 Russian casualties (Knezys and Sedlickas 1999, 294). Chechen forces soon controlled much of the city and this assault finally broke the political will of the Russian government to continue the fighting. Following negotiations, the Khasavyurt Agreement was signed on 31 August 1996, and a withdrawal began.²

It was felt by many that another war was inevitable, if not necessary, to wipe out the “professional disgrace” that pervaded the Russian military. Following the Russian withdrawal, Chechnya descended in lawlessness. Bandits controlled much of the country and “indulged in three main activities: drug trafficking, mostly from Central Asia, large-scale money forging operations; and trading in people and arms” (Manilov 2000, 28). Aslan Maskhadov replaced Dudayev as President following elections in January 1997.

The lawlessness of the region frequently spilled over to the rest of the Caucasus. Shamil Basayev, the former Chechen prime minister and insurgent leader from the first battle of Grozny, led a raid into Dagestan in August 1999 in an attempt to seize control of several villages to establish Islamic order over them. On 10 August, Islamic leaders met and declared Dagestan's independence. It took Russian MVD and MOD forces until mid-September to rid the main areas of Dagestan of insurgent fighters.

A series of terrorist attacks hit Russia from August 1999 onwards. From Dagestan to Moscow, explosions in apartment blocks and shopping centers killed over 400 people. Despite being accused of harboring terrorists, President Maskhadov denied any official involvement in the attacks. The attacks polarized Russian public opinion in favor of a renewed campaign in Chechnya. Coincidentally at this time, Russia was undergoing a change of premier and Vladimir Putin was stepping to the fore. He presented a much more "no nonsense" approach to the conflict, especially with the reassurance of strong public backing.³

Several fundamental changes had been effected in the organization of operations in Chechnya. In overall command was the North Caucasus Joint Grouping and below this were three (later four) subordinate operational groupings (OGV). Each grouping had a sector in which to operate and a certain degree of autonomy (much more than previously) was given to the commanders.

The plan for the (second) seizure of Chechnya was split into three phases. Phase 1 was the air campaign, phase 2 the ground campaign (see figure 6), and phase 3 the destruction of bandit groups in the mountains while restoring law and order and establishing conditions for the return of refugees to their homes (Federation of American

Scientists 2000). The end state for the operation was loosely defined as “re-establishing constitutional order” (Orr in Aldis 2000, 84).

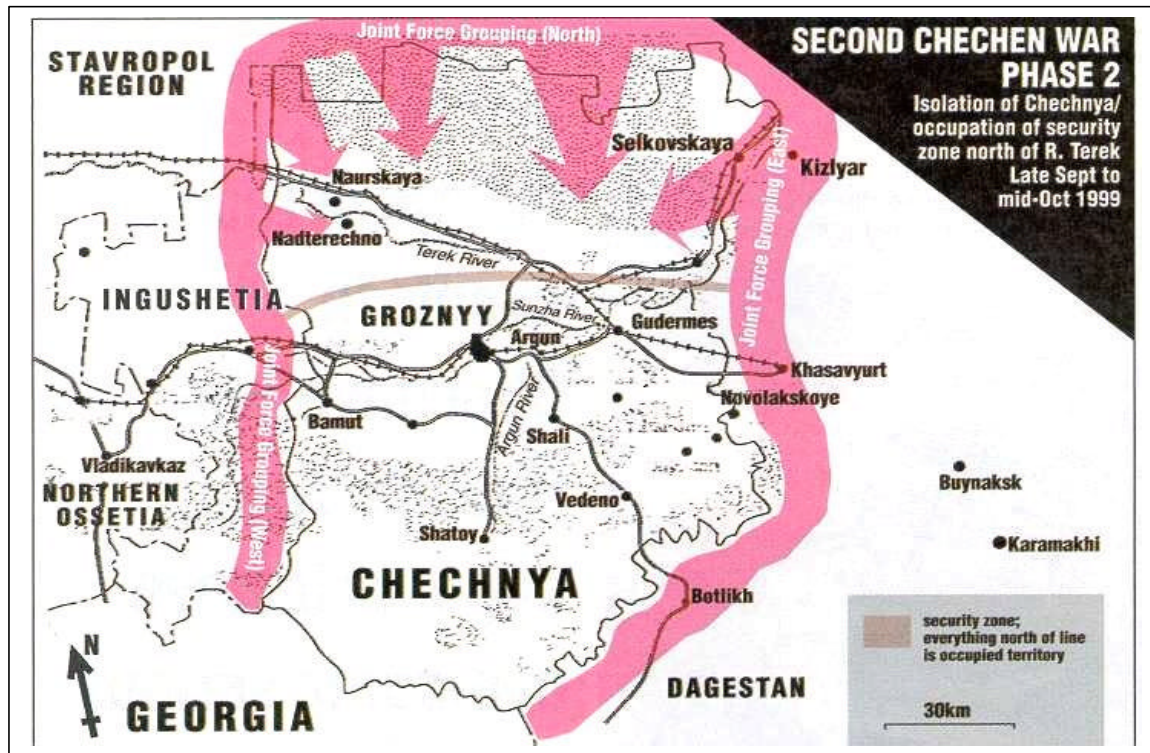


Figure 6. Phase 2 of the Recapture of Grozny, 1999

Source: Global Security.

Available at <http://www.globalsecurity.org/military/world/war/chechnya-maps.htm>.

The air campaign was followed by an encirclement of the country by up to 50,000 ground troops. The air offensive aimed at “demoralizing the will of the populations to resist and the complete ruination of the internal infrastructure of Chechnya” (Blandy in Aldis 2000, 16). Targets included dams, weirs, water distribution systems, fuel dumps, oil installations, the telephone system, and the electricity supply system.⁴ Seeing the writing

on the wall, many civilians decided to leave Chechnya and over 200,000 people fled into Ingushetia.

Military advances were made towards Grozny at a calculated and deliberate pace. The border to the south with Georgia was sealed and units fought hard to control the strategically important Argun Gorge route into Georgia - a major Chechen supply route. The groupings of artillery observers to companies and the decentralization of fire units led to a greater responsiveness. Fire missions unique to the Afghan War, such as the fire block, artillery fire sweeps, defensive barrage boxes, and fire sectors, made a resurgence. The use of precision munitions was much wider, as was the use of Smerch and Uragan rocket artillery.

The need to achieve set timetables for progress towards goals became of secondary importance. The aim to prevent casualties during the operation was all encompassing. "The contrast with the first war, when junior and middle-ranking commanders were under constant pressure to push on and secure objectives in unrealistic times, is very noticeable" (Aldis 2000, 94).

Operational pauses became more common, which allowed regrouping and resupply. Prior to the assault of Grozny, a pause occurred to allow units to shake out into storm detachments. It has also been suggested that the Russians used artillery to change a three dimensional battlefield into a two dimensional one by leveling many of the large buildings to make up for the poor quality of their infantry (Ackerman 2000, 4).

By mid-October, Grozny was 80 percent surrounded and artillery preparation of the capital began. On 21 October the first known use of SS-1 and SS-21 missiles

occurred. The missiles reportedly killed 140 people in the central market place, an alleged arms bazaar (Federation of American Scientists 2000).

Several different pieces of equipments were used during the fighting that were not used in previous encounters. Weapons such as thermobaric rockets and heavy precision mortars gave a much greater capability to Russian forces than in the first conflict. These weapons will be discussed further in chapter 4.

In the second Chechen War, Russia used a significantly increased amount of artillery, with the military “relying on massive and indiscriminate use of artillery” (Baev 2000, 1). This tactic, though desired in the first conflict, was not politically sustainable due to possible public and international outcries. The tactic in the second conflict brought success in villages and smaller settlements, where total encirclement was effected. Afterwards, commanders negotiated with headmen for capitulation and free passage for noncombatants. This tactic worked well in these situations, but as Russian troops approached Grozny, it was clear that resistance was becoming more tenacious (the population of Grozny by this time was estimated at 30-40,000, it had originally been 490,000).

The suburban settlements of Grozny, Alkhan-Yurt, and Kulary were used by Chechen fighters to secure routes out of Grozny. Positioned eleven kilometers south of the capital, the towns became hardened centers of resistance. As Russian forces advanced, Chechen fighters put up a determined fight. “The gradual but remorseless forward progress of the Federal Forces was achieved by indiscriminate artillery and aviation strikes. The towns were subjected to a daily routine of terror” (Blandy 2001, 11). The shelling caused much consternation in the international community.

Russian forces began shelling and bombing Alkhan-Yurt on November 6, and the bombardment lasted intermittently until Dec 1, when Russian forces finally entered Alkhan-Yurt. Shelling was particularly intensive on November 8 and during the final days of November, and caused an unknown number of civilian casualties and the widespread destruction of civilian property in the town. Russian forces indiscriminately shelled Alkhan-Yurt forsaking their Geneva Convention obligations to take serious precautions to limit the loss of civilian life during military operation. (HRW 2000, 1)

The ferocity of the bombardment showed that the Russian Army had changed tactics totally. In line with this, the hard fighting of the Chechens was a key indicator of what lay ahead in Grozny. The policy of protecting Russian servicemen by engaging at maximum ranges was clearly being put into effect. Major-General Vorob'yev emphasized this policy in *Voyennaya Mysl'*, stating that it took on average 7,500 bullets and seventy rounds from regimental artillery to kill one Chechen fighter--around a 20 percent increase on quantities used in Afghanistan (Blandy 2001, 13). Clearly the forces of choice for the assault of Grozny in 1999 were artillery and air power, while in 1994 they were tanks and infantry (Thomas 2000,1). Key to the successful use of artillery were the units created for urban reconnaissance. Teams of snipers infiltrated the city, provided information about the location of Chechen forces, and called in artillery fire onto targets. "They employed thorough reconnaissance to locate the Chechens and used intense observed direct and indirect supporting fire to neutralize enemy resistance. Grozny was turned into a free fire zone" (Thomas 2000, 3). Tactical adaptations to coping with the Chechens included the isolation and encirclement of enemy fighters by fires. Responses to enemy ambushes led to the deployment of a "wall of fire" fifty to one- hundred meters away, which was used to push enemy fighters away. The use of artillery ambushes also became more widespread, especially in the mountains. In the first battle for Grozny many incidents of fratricide resulted from insecure radio traffic and even false transmissions

from Chechen fighters. On several occasions they called air and artillery onto Russian troops using Russian aircraft and artillery. Improvements in communication security resulted in huge improvements in the operation of artillery.

From the start of the offensive, the Russian military denied it was going to assault Grozny (it has since been suggested this was part of a deception operation). This was partly borne out by the encirclement of Grozny and the artillery strikes that followed. Russian authorities called on those civilians still in Grozny to leave the city, which was interpreted as “Get out of Grozny or die” (<http://www.twf.org/News/Y1999/1207-Chechnya.html>). But “by 23 December, it was clear that a full-scale attack on Grozny was underway” (Oliker 2001, 43). Advancing methodically, Russian forces systematically cleared every building on the routes forward. With overwhelming use of artillery backed up by air strikes and fuel-air explosives, they advanced neighborhood by neighborhood, unleashing a terrible price on the defenders. The refined tactics of the storm detachment continued to be effective and the taking of key significant nodes in the city established a “spider-web” of Russian control the Russian planners believed would “limit the mobility of rebel forces, making them vulnerable to storm detachments and artillery fire” (Oliker 2001, 45).

Much criticism has been leveled at the Russian Armed Forces and indeed the Russian government over the seemingly indiscriminate use of artillery and aviation to inflict damage on many areas in Chechnya, Grozny, especially. Paradoxically the public outcries over the actions taken in the second campaign were less than in the first, despite the huge increases in the amount of destruction. A more focused and deliberate information operations campaign was undertaken during the second campaign, the

Russian government having learned harsh lessons from shutting out much of the media during the first campaign.

Early successes gave way to a slow and bloody advance, sometimes only one hundred meters a day. The Chechen forces did their best to draw the Russians into close fighting and managed to do so several times in the area of Minutka Square.

By early February 2000, the majority of Grozny was in Russian hands, and the Chechens began to withdraw from the city in an attempt to preserve some combat power. Once Grozny was secure, the military again ceded control to the MVD.

Table 2. Numbers of the Federal Forces and the Chechen Armed Formations

Date	Personnel	Tanks and Vehicles	Artillery**
Federal Forces* (1994-1996)			
Dec 1994	6,000	500	270
Jan 1995	8,000	520	340
Feb 1995	40,000	1,500	397
Sep 1995	38,000	1,350	350
Chechen forces (1994-1996)			
Dec 1994	20,000	134	200
Jan 1995	40,000	126	190
Feb 1995	5-7,000	34	28
Sep 1995	40,000	48	54
Federal Forces (1999)			
Dec 1999	100,000	1,650	480
Chechen Forces (1999)			
Dec 1999	20,000	14	23

*The equipment and personnel figures do not take into account Ministry of the Interior Troops, militia, or OMON units.

**Artillery systems with a caliber exceeding 100 millimeter including rocket systems.

Source: Steven J. Main, *North Caucasus Military District: Defending Russia's Interests in the Caucasus (1996-August 1999)*, Conflict Studies Research Centre, (Swindon, Wiltshire, United Kingdom: British Army Review Printing Press, 2000) 28.

Table 2 shows how the numbers of federal personnel and equipment grew rapidly over the course of the conflicts to a peak of around 100,000 in 1999. Of relevance is the amount of artillery employed in the country and how reliance by the Russian forces upon it grew; the quantity of artillery grew steadily as the conflict progressed. The quantity of artillery employed in conflicts typically starts off in low numbers, which results in unwarranted losses owing to insufficient fire support for units in close combat. Chechnya was no exception (Karatuyev 1996, 23). By the time of the fighting in 1999, the Russian forces realized in full the utility of artillery and started operations with more than they peaked with during the first battle for Grozny. Comparing this to recent operations, a large criticism of the recent war in Iraq was the lack of artillery available: “Ironically, one reason artillery gained renewed respect is because there was so little of it available during the campaign, every tube and every round had to count” (Scales 2003, 44). A limited quantity of artillery can only achieve so much, and planners must realise that cutting artillery off staff tables to send more “bayonets” is not always the best idea.

End Notes

¹The Buddenovsk raid by Chechen forces was the first operation carried out not inside Chechnya. The operation gained much publicity for the cause and resulted in political embarrassment for the Yeltsin administration. For full details see Knezys and Sedlickas.

²The agreement laid down guidelines for the establishment of constitutional law and order in Chechnya along with religious tolerations. On the Russian side, they were to compensate all those who suffered lost homes and repair the destruction from the first battle of Grozny. Both sides failed to uphold the agreement. Failure to assist in the reconstruction of Grozny led to widespread unrest. Unemployment was around 80% as the majority of the industry had been flattened and the Russian ring of steel around Chechnya stifled the economy.

³Conspiracy theories are rife regarding this period. Vladimir Belotserkovskiy writes, "It is very difficult to believe in the accidental coincidence of three events: the beginning of the election campaign, the nomination of Putin as Premier and the sortie of Basayev [into Dagestan]" (Blandy in Aldis 2000, 13),

⁴Many parallels can be drawn here between the strikes and the NATO strikes into Serbia. As of 25 September 1999 the Russian air force claimed it had carried out 1,700 sorties and destroyed 150 military bases, 30 bridges, 80 vehicles, 6 radios transmitters and 250 kilometers of mountain roads.

CHAPTER 4

ARTILLERY EQUIPMENT OBSERVATIONS

The bomb is a fool, but the soldier is a clever fellow. (Lieven 1999, 116)

Marshal Suvorov

As a result of the conflicts in Chechnya, several changes occurred in the equipment of the Russian Army. In the case of artillery these changes were as noticeable as elsewhere. The main effects of artillery are categorized thus: “neutralization,” whereby an enemy is prevented from moving, observing, or manning his equipment; the “material effect” or the destruction of his equipment; the “lethal effect,” the physical destruction of enemy personnel; and lastly the “morale effect,” the shock and demoralization that occurs amongst troops under fire (Bailey 1989, 16).

Precision Systems

The effectiveness of fire was impaired by the total lack of precision weapons. (1998, 45)

Karatuyev

Several issues are pertinent regarding the use of artillery in urban operations, and many of them were observed being either surmounted by or blocking Russian forces operating in Chechnya. The issue of greatest note is perhaps that of the need for increased precision of artillery fires, coupled with the need for a suitable weapon and ammunition system to deliver the necessary effects required in urban combat.

The drive to achieve greater precision in artillery systems is as old as artillery itself. The ubiquitous “artillery problem” of overcoming meteorological, survey, and calibration inaccuracies still exists in this age of high technology. Regarding urban

operations, laser-guided shells are currently the only real way to achieve precision with tube artillery. Current systems rely on semiactive laser guidance and pick up reflected laser energy directed at a target by an observer located either on the ground or in the air. Given suitable conditions, target end accuracy can be in the region of plus or minus 0.5 meters.

The amount of collateral damage caused by artillery in Chechnya was huge and felt by many to be unnecessary. While achieving precision is useful in many circumstances, it does have its downsides. Precision shells are around ten to fifteen times more expensive than conventional high explosive “dumb” shells. Russian thinking prior to the Chechen conflict, espoused by General Gareev, formerly of the Soviet General Staff, was: “you need to allow enough conventional munitions to destroy 30 percent of your targets” (Hollis 1993, 13). If suppression of a target is the effect required, then clearly more than one shell will be required over a specific time, and in that case “dumb” munitions achieving reasonable accuracy are ideal (as well as cost effective).

One of the most effective weapons available to the Russian Army in Chechnya was artillery munitions with semiactive laser guidance. Two distinct flight correction systems for artillery projectiles are currently in service around the world: the American AGAG (aerodynamic guidance) and Russian RCIC (pulse-guidance). Development of artillery ammunition with in-flight correction began in the 1960s, but only Russia and the US developed effective ammunition with semiactive laser self-guidance. The AGAG concept is currently implemented in the American "Copperhead" 155 millimeter and Russian 9K25 "Krasnopol" 152 millimeter guided projectile, shown in figure 7, (the Russians now seeming to have moved to AGAG). Target designation for the Krasnopol

is either from an armored observation vehicle, such as the PRP-4, or from a dismounted team. First-generation RCIC-based systems include the Russian "Smelchak" 240 millimeter ammunition for the 2S4 Carnation self-propelled artillery system and also "centimeter" 152-millimeter ammunition that can be fired from a variety of systems.



Figure 7. The 9K25 Krasnopol Laser Guided Shell.

Source: www.rusarm.ru/products/army/krasnopol.htm

Performance figures for these shells are proof of the effectiveness of such precision systems. "Smelchak," due to the weight and explosive content of the shell, reduces the amount of ammunition used eighty to one hundred times. The system offers a 78 percent hit probability within a 0.8-to-1.8-meter deviation, 70 to 90 percent target destruction and 97 percent reliability. "Centimeter" offers 97 percent reliability and 94 percent target hit probability within a 0.5-to-0.9-meter deviation. Effective ranges for the 152 millimeter munitions are twelve-to-fifteen kilometers, and for the 240 millimeter munitions--fifteen to seventeen kilometers (Federation of American Scientists 2000). Another advantage of RCIC-based ammunition is its ability to engage targets at short

distances (under two kilometers), while AGAG-based ammunition requires four-kilometer separation from target (<http://www.aeronautics.ru/chechnya/122599.htm>). RCIC-based ammunition is also three to four times cheaper to produce. "Copperhead" systems take three to five times longer to destroy a target than the RCIC-based Smelchak. Precision-guided artillery munitions were eventually used by Russian forces in Chechnya to attack reinforced Chechen positions with a high degree of accuracy. Current US joint doctrine, in particular JP 3-06, promotes the employment of precision artillery systems and munitions. The need to strike targets more accurately, thus reducing the probability of collateral damage, is seemingly becoming of paramount importance.

Russian thinking on precision in Chechnya, as per the intent and guidance, originally mirrored this position, and established military thought was that only around 30 percent of all targets would need to be struck by conventional munitions (Hollis 1993, 13). The espousal of the need for precision in artillery systems continues today. That the capability exists, no one can doubt. That the capability is useable and has direct utility in its current form remains to be seen.

The employment of Krasnopol systems in Chechnya was more limited than might have been expected. Combat firing of Krasnopol shells in China in 1994 (combat conditions were simulated for an arms demonstration to the Chinese Army) confirmed its abilities (Dimidyuk 1995, 7); hence, its employment in Chechnya would have been expected to be more widespread. The limited use of Krasnopol was, in part, put down to weaknesses in command and control and the poor synchronizing of calls for fires from the observers to the gun positions.

The poor level of training on the gun position also reflected an inability to use fully the technology available. Low skill level and inexperience were rife in the Russian artillery; thus the human in the loop can be seen as a key weakness in Krasnopol. It was noted that “several experienced experts were sent to Chechnya to speed up the teaching of personnel how to use it” (Fesenko 2003, 3). Furthermore, it has been suggested that the expensive nature of the weapons precluded their use in the first Chechen conflict, given a perceived wish to save them for “a real war.” This highlights the issue of the strategic and operational aims of the campaign and reveals key intelligence deficiencies in the assessment of the Chechen threat. Unfortunately, as previously stated, for Russia, the breakup of the Soviet Union left the majority of the artillery schools outside Russia and this created a teaching and training gap that impacted directly on the performance of the artillery in the Chechen campaign.

The issue of the nature of precision artillery shells still resounds today. Recently in Operation Iraqi Freedom, “No Copperhead howitzer shells were fired. While they are accurate weapons, they take too long to assemble and fire” (Scales 2003, 46). This directly mirrors the experience of the Russian Army in Chechnya with Krasnopol. This is not just the experience of an underfunded, undertrained conscript army, but the modern US Army.

Semi-active laser homing requires a clear line of sight and certain meteorological conditions to be met for a successful engagement. According to NATO data, the probability of attaining these criteria in Europe for an engagement range, observer to target, of two to three kilometers is on average around 20 percent. For ranges over five to six kilometers, this drops to a few percentage points (Fesenko 2003, 2). This “weather”

factor may also have contributed to lower than anticipated use of Krasnopol in Chechnya, given both conflicts were carried out largely over the winter months.

Lending autonomy to artillery munitions has been perfected in a family of sensor-fused munitions, such as the US “Sense and Destroy Armor munition” (SADARM) system. Munitions of this ilk scan for targets once deployed, normally using infrared sensors or occasionally radar. Once a target is detected, a self-forging munition is fired that will penetrate the top armor on an armored vehicle. These munitions have great utility against static or moving vehicles provided the size of their “sensor sweep” is large enough to pick up targets. Issues arise if numerous munitions target the same vehicle, which can result in overkill. In urban terrain the munitions still have some utility against vehicles, but against fortified positions and buildings they do not. Given no measurable signature, these types of targets need either designation with a laser or accurate fixation from an observer to ensure hitting them.

As of December 1999, successful firing of 155 millimeter shells with Global Positioning System (GPS) receivers aboard has been undertaken: one example of this is the US Excalibur ammunition program. It is aiming to bring precision in a more workable form to the field artillery from 2006. The system relies on GPS guidance and has three models, all with different payloads. The system guarantees delivery range of up to fifty kilometers with a circular error of probability of twenty meters or better (Raytheon Company publicity brochure). Once fixation of a target has been established, GPS-guided munitions overcome the problems of the need for constant target designation. Coupled with an explosive ability to produce a useful target effect, GPS-guided shells will have marked utility in urban operations. A key issue thus remains in obtaining the fixation of

the target, but, given the recent proliferation of handheld laser range finders that connect to the GPS, the ability to obtain the accuracy required for a precision shell is easily achievable.

Heavy Artillery

Resurgence in the use of heavy artillery was observed in Chechnya in 2000. Heavy artillery was not observed operating in the first battle of Grozny in 1994-95, but it was felt in the subsequent reviews that there was an acute need for it, given its capabilities. Given the substantial preparations made by the defenders in Grozny in the first campaign, planners felt that the artillery systems employed against them proved to be far from effective (120 millimeter and 155 millimeter artillery systems) and target-end effects poor. It was also felt that attacks on fortified positions without artillery preparation are impermissible (Karatuyev 1996, 26). Soviet experience in Afghanistan had shown that use of the 2S4 Tyulpan (Tulip Tree) 240 millimeter self-propelled mortar, shown in figure 8, armed with the Smelchak laser-guided mines, had proved extremely effective against point targets, such as strongholds, cave entrances, and other hardened targets (Bulatov 2001, 1).

In 2000, the Russian artillery created an independent unit armed with the 2S4 for operations in Chechnya. In three months of combat operations, it fired more than one hundred fire missions against prepared defended positions, bridges, and other defensive positions proving very useful: “The use of correctable Smelchak shells was extremely effective and became the decisive factor in the assault. They destroyed 127 targets” (Matyash 2000,4).

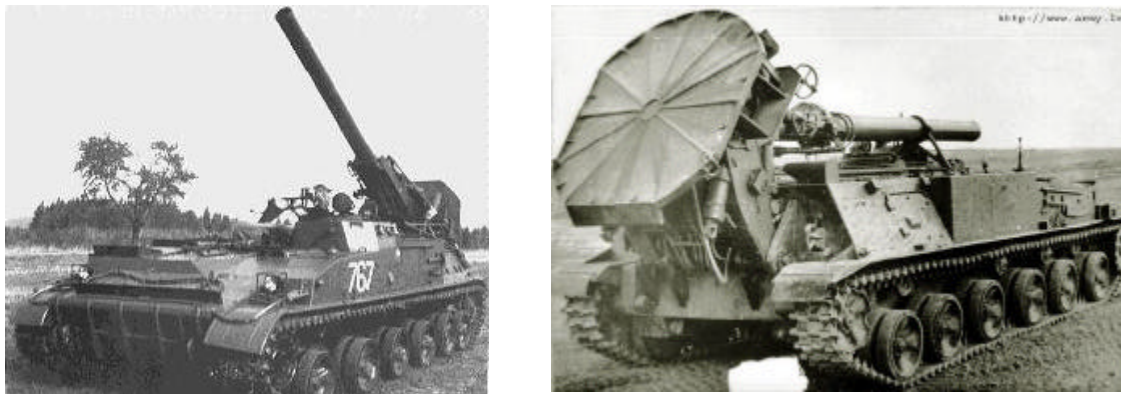


Figure 8. The 2S4 Tyulpan SP Mortar

Source: Russia's Arms Catalog (<http://www.armscontrol.ru>)

No heavy tube artillery (artillery with a caliber greater than 155mm) has existed in the NATO arsenal since the withdrawal of the M110 by the US and the UK in the mid-1990s (being replaced by the multiple launch rocket system). The Russian 2S4 has the ability to deliver heavy warheads capable of achieving the required destruction necessary on fortified positions with a high level of precision. Despite being manufactured in the late 1970s, its capability has been enhanced through the provision of laser guided munitions. In NATO countries this weight of fire can only be achieved with a high number of smaller caliber rounds or by air delivery. Given that air delivery, that is, air support, is not twenty-four-hour, all-weather capable and can be vulnerable depending on the threat level, the only guarantee of “heavy support” is from artillery forces. The poor weather during the first battle for Grozny impacted heavily upon the use of air support, thus limiting its effectiveness.

During the second Chechen war (August 1999 to May 2000), artillery accounted for 70 percent of the fire missions, compared to aviation's 30 percent. Typically, as a battle moves from preparation to actual combat, artillery provides 80 percent of the fires (Hollis 1993, 13). In times of bad weather this figure goes up to 90 percent (Zaritskiy 2002, 1).

Bulatov, in his article *Heavy Artillery: Notes on the Evolution*, posits that 152 millimeter ammunition does not have the ability to achieve many of the missions of heavier ammunition due to its low explosive content and low mass, regardless of the numbers used. This limits its utility in urban operations. Given the proliferation and accuracy of artillery-locating systems, the time available for artillery units to effectively engage a target is decreasing (if the survivability of the fire unit is to be maintained). While heavy artillery systems may have a lower rate of fire, the higher effectiveness of the rounds, coupled with the precision achievable, can often provide the necessary desired effect quickly and easily. The precision argument is demonstrated thus: using Russian weight of fire tables, the number of shells needed to suppress an open firing point is 16 85 millimeter shells, 14 100 millimeter shells, 14 122 millimeter shells and 8 155 millimeter shells. A 240 millimeter shell would logically require even fewer. Time becomes an important factor here because as soon as the firing starts, a target with mobility will abandon its position (depending on the local protection afforded to it) and the remainder of the firing is wasted (Odintsov 2003, 3). To achieve the necessary effect, the rounds must be accurate and able to deliver enough weight of explosive to accomplish the mission with as few shells as possible. The reduced range of heavier systems becomes less of a problem if it is considered that 80 percent of missions fired in urban operations

are at a range less than five kilometers (Odintsov 2000, 2). Russian use of rocket artillery, which can be considered heavy has not been included to this point. A system, such as Smerch and Uragan, provides an effective weight of fire but with only limited precision at this time. They did see service in Chechnya and even reports of Scud missile firings into Grozny are not uncommon--they all remain area weapons.

Fuel-Air Explosives

The second Chechen conflict saw the emergence of a new type of artillery system. Although first tested in Afghanistan in the late 1980s, it was first used in great numbers in Chechnya. The TOS-1 (code named Buratino) is described by Russian sources as a “flamethrower,” whereas it is actually a 30-barrel, 220 millimeter multiple-rocket launcher mounted on a T-72 chassis. The TOS-1 (figure 9) delivers thermobaric warheads out to a range of six kilometers (although some sources suggest three and a half kilometers as the maximum range). Attached to artillery battalions, the TOS-1 proved extremely effective.



Figure 9. The TOS-1 “Buratino”

Source: Federation of American Scientists.
Available at <http://www.fas.org/man/dod-101/sys/land/row/tos-1.htm>

Thermobaric warheads, also known as “fuel-air explosives,” produce intense overpressure around the point of detonation around thirty times higher than normal atmospheric pressure (almost twice the pressure of conventional explosives) and a temperature of up to 3,000 degrees centigrade. Personnel in the detonation area are literally crushed to death (Grau 2000, 1). Thermobaric weapons are particularly useful against exposed personnel, combat equipment, fortified areas, and defensive fortifications for clearing passages in minefields and neutralizing strongholds in house-to-house fighting (Human Rights Watch 2000). They have been compared to “tactical nuclear weapons without the residual radiation” (Grau 2000, 1). Russia actually possesses a family of thermobaric weapons that range from the shoulder-launched Shmel through the TOS-1 and onto warheads for the longer range Smerch and Uragan rocket systems.

Russia used the TOS-1 extensively in Chechnya during the second conflict, in the mountains, the flatlands, and in Grozny itself. In the first conflict, Shmel systems were the only thermobaric weapons used in Grozny. Currently, no NATO nation possesses an equivalent system to the TOS-1, although a variety of different smaller systems are in the process of being fielded. The development, from its first sightings in Afghanistan in the 1980s to what is thought to be the current “mark-four” model shows a continued investment in the system. Protection from thermobaric weapon systems is difficult to achieve and “may depend on tactics and drills, improved counter-battery procedures and use of camouflage and deception means” (Grau 2000, 5). Current US doctrine does not give guidance on such measures.

The target end effect of the TOS-1 is significantly greater than anything used during the first Chechen war. Fully in line with the policy of engaging the Chechens from a distance, the TOS-1 proved to be devastating.

CHAPTER 5

LESSONS LEARNED

Renown awaits the commander who first restores artillery to its prime importance on the battlefield. (Extract from letter sent to Montgomery, Feb 1943)

Winston Churchill

The inability of the Russian Army to form, train, deploy, and command a “suitable” military force in 1994 was, in large part, reason for many of the failures in the first Chechen conflict. The initial deployment and use of “ad-hoc” formations proved totally unsuitable for the type of fighting in which it was engaged. The artillery was no different in this area, and many gun crews, observation parties, and staffs came together for the first time on the journey to the conflict area. Artillery observers ideally need to be integrated into the units which they are to support if they are to provide the best results possible. The use of newly enlisted conscripts proved to be disastrous for the Russians. Desertions were high and the effectiveness of these soldiers was, at best, questionable. Reviews carried out of the first campaign highlighted many areas of weakness. The use of firepower, in particular artillery, was one area where significant changes were made due to the lessons learned.

Rules of Engagement

For the sake of saving people’s lives I have given instructions that bombing strikes which could lead to fatalities among the civilian population of Grozny be ruled out. (Edwards 2000, 64)

President Boris Yeltsin

ROE must be robust enough to support the operation and allow commanders the necessary freedoms to make quick decisions. “Soldiers were sometimes prohibited from

massing fires and lacked clear rules of engagement and target adjustment criteria” (Glenn 1999, 607). Given the confusion and heavy losses that followed, attempts were made to articulate things more clearly and guidance was adjusted to make the direction more suitable and employable. In one case the crew of a Russian helicopter observed a Chechen BM-21 being prepared for firing. Unsure of the ROE they radioed for permission to engage the target. While the Russians waited for a reply the Chechens fired, killing several Russian soldiers (Pilloni 2000, 45). Russian regulations also forbade the dropping of aerial ordinance closer than three kilometers to a village or town (Aldis 2000, 105). By the start of the second Chechnya campaign (and given a good perceived level of public support) Vladimir Putin went on to give the Russia military “carte blanche to conduct operations as they saw fit” (Baev 2003, 189). The political and military will however, must be present to use all weapons available and not “save them for later” as happened with the Krasnopol laser-guided munitions.

Pertinent to the ROE issue is the question of whether any scenario put before NATO or US or UK planners would permit the wholesale destruction of a city in such a manner as seen in Chechnya. While it is easy to discount this option outright as something which could not possibly occur, there are key aspects of the actions taken that cannot be ignored. Firstly, on many occasions Russian forces worked with Chechen civic leaders and on occasion the rebels themselves to avoid destroying towns and villages. Often, once towns were surrounded, Russian forces would negotiate with the elders of said area and arrange for safe passage of noncombatants from the area. Clearly this is far from easy in a large city such as Grozny, and actual use of this policy can never remove all noncombatants from the fighting. Indeed, many possible enemies would not allow

noncombatants to leave as they may form a key element of an enemy's own defensive tactics and protection.

Recent urban operations involving NATO forces include those carried out in Somalia. Targeting issues there over collateral damage led to a system whereby targets for engagement had to be cleared through the National Command Authority based on the following criteria: military significance of the target, reliability of the targeting information, extent of possible collateral damage, and weapon engagement options (FM 3-09.31, 3-12). If a time imperative exists then this system would be unwieldy, but it highlights the strategic sensitivity of using heavy weapons in urban areas.

Figure 10 shows the relationship between collateral damage and ROE, and where both Grozny operations lie on the line. The tradeoff exists that by restricting the use of airpower and heavy weapons (restrictive ROE), higher friendly casualties will occur during any assault, given the reduced amount of "preparation," but there will be less collateral damage. Improper and inapplicable ROE, as witnessed in Chechnya, not only can lead to civilian deaths and collateral damage, but also can give useful ammunition to the media and enemy information operations (Edwards 2000, 62).

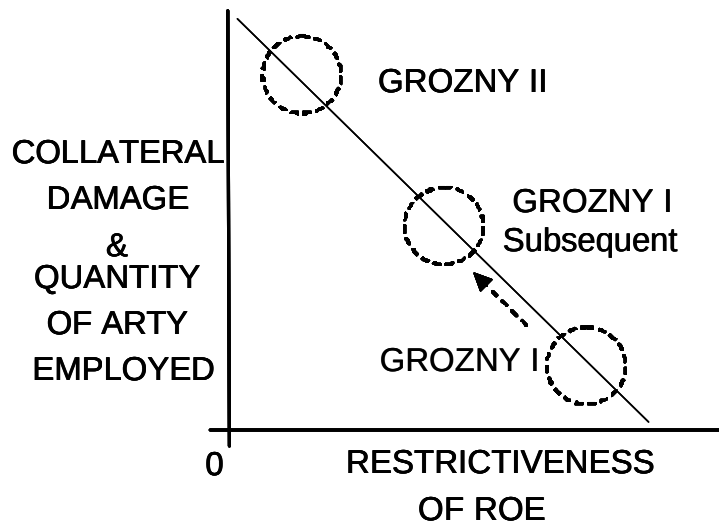


Figure 10. The Relationship between ROE and Collateral Damage

“Ordnance is blind to the individual. Men retain a strong personal interest in wanting to avoid bombs and fear makes them quick witted and agile to achieve this” (Lieven 1999, 117). Heavy bombing, as witnessed in Grozny, can have devastating results on the support a government may or may not have for the conflict it is prosecuting. Lieven makes an interesting deduction from his experiences as a reporter on the ground in Grozny, that the psychological preparation and mood of the troops involved in the necessary house to house fighting in urban operations will virtually preclude restraint in the use of force. This, therefore, has ROE implications in itself. Defeating an adversary without destroying the city is a large and ever present issue. “Rubbilizing” a city has been shown to be good for force protection but it quickly destroys what remnants of local support may exist for the operation and adds to the strategic problem. Destruction of a city ultimately assists the defenders and makes the assault more difficult, as undoubtedly the attackers of Monte Cassino, Ortona, and Caen found out.

Tactics, Techniques, and Procedures

Fighting at arms length implies using simultaneity, manoeuvre and counter-fire to hit and disengage. It does not mean simply seeking to out-range the enemy: desirable though this may be. Nor does it mean a greater reliance on indirect rather than direct fire. (2002, 112)

British Army Doctrine Publication: Operations

Several tactical developments occurred in the use of artillery over the various Chechen campaigns. Drawing upon many lessons learned from Afghanistan and faced with the need to counter a fast moving enemy aiming to get within a safe proximity of their own troops, the Russians employed several methods of fire to great effect. Many regarded the techniques as new, as following Afghanistan they had not been incorporated into Russian Army tactics (Aldis 2000, 102). One such development is the fire block, a barrage that aims to keep an enemy force in place and prevent its escape, essentially a form of fixing. The artillery fire sweep was used to suppress and harass Chechens in remote and inaccessible places with fires that sweep over designated sectors, often at long range. Defensive box barrages give close in protection to troops and prevent positions from being overrun. “If we are ambushed we create a wall of fire fifty to one hundred meters from our soldiers and use that wall of fire to push the guerrillas away” (Hollis 1996, 9). The fire corridor integrates the fires of different artillery units to shell suspected artillery and mortar sites while conducting barrage fires on areas of possible enemy action (Aldis 2000, 102).

Command and control of artillery was fundamentally altered to make it more responsive and coordinated down as far the company. Groupings of observers were changed to support this (see Chapter 3). The Russians also decided that the artillery

battalion was not necessarily the best grouping size to support urban operations and in many cases attached gun batteries to infantry battalions in the direct support role.

In comparison to the other branches of the Russian Army, the artillery and rocket troops in some areas received widespread praise. The equipment in particular proved much more robust and reliable, especially given the criticism leveled at particular items such as the T80 Main Battle Tank. “In particular, the multi-barreled rocket systems Uragan, Grad, and the 122 mm D-30 towed gun-howitzer were singled out as very effective” (AFM Vol 2 Pt 5 2002, C-5-6). In February 1995 Russian Defense Minister Pavel Grachev spoke at a conference on the future of Russian armored vehicles in the light of the Chechen conflict. The conference reviewed many of the shortcomings of Russian vehicles and addressed in particular their vulnerability: “the T-80 turned out to be a junk heap on the battlefields of Chechnya” (Hull 1999, 161). With insufficient top and engine compartment armor plating, vehicles proved totally unsuitable for the urban environment. Essentially, the newest equipment Russia had to offer was being defeated by rocket-propelled-grenades.

The value of the delivery systems in a time of tight budgets, as experienced by Russia, must be considered. Learning from the losses of armored vehicles suffered in Chechnya, Russia has invested in self-defense systems for its newer delivery systems: the systems are not just confined to tanks. These can protect vehicles in a variety of ways. The 2S31 gun-mortar system, for example, now includes laser detectors and smoke discharges designed to defeat precision weapons (not used in action in Chechnya). “Company representatives have in the past stated this system significantly increases the survivability of the vehicle” (Hull 1999, 350).

According to General Zaritskiy (Commander of Missile and Artillery Forces in Chechnya, 1999), in “local wars,” as internal conflict is often called in Russia, given its characteristics of maneuverability, high precision, remote delivery, and insignificant dependence on season, time of day, weather, and other conditions, the use of artillery will only grow. Therefore, consideration needs to be given to this in the military reform program (Zaritskiy 2002, 7). In the Chechen War, towed artillery systems were extensively utilized to bombard major buildings in downtown Grozny. “Because Russia continues to see such conflicts as the most likely threat, Russia will likely continue to look to accurate, lightweight and cost effective artillery systems to fill the low-technology/low-cost niche for Russia’s mobile forces for the next twenty years” (Hull 1999, 392).

While artillery had its champions, it also had its detractors, despite the advantages it brought. This is an issue one will always have to overcome. To quote General Mikhail Surkov, Deputy Commander of the Duma Defense Committee, “As for Artillery, using it in urban conditions is useless. It is like trying to use a canon to kill sparrows.” (Lieven 1999, 115)

Artillery staffs must have some influence over the division of terrain into sectors. Distribution of the battlespace must ideally be manageable in targeting terms. The Chechen use of the idea of a “defenseless city,” where no ground is considered vital or key, firmly shifts the emphasis to targeteers to ensure the correct “effect” is applied at the right time (that is, in urban operations it can be necessary to be more enemy focused than ground focused). Grozny in the second conflict was reportedly divided into fifteen

sectors, thus allowing greater coordination. Supporting units were aware of this and the deconfliction by targeteers was much smoother.

Artillery targeting and intelligence improved considerably. The second war saw strikes against key nodes, such as the phone system and the electricity supply, designed to reduce the ability of the Chechens to control their operation. This also restricted the ability of the Chechens to fight the information war as successfully. A total lack of intelligence in the first conflict led to the operation being terrain focused. Learning from their experience, the Russians became more enemy focused in the second campaign. Intelligence collection was improved by the second battle for Grozny. The Army obtained large-scale maps and satellite photographs, thus giving better resolution, and made a concerted effort to improve tactical reconnaissance. Significant improvements in air-to-ground coordination resulted in less fratricide. The Russians employed artillery as their main offensive weapon. They knew their enemy very well by the time of the second conflict and used the strengths of artillery and firepower to offset some of their human weaknesses.

The initial deployment for an operation must contain sufficient artillery assets (given the threat). Many times militaries restrict the quantity of artillery deployed on an operation in order to get more bayonets on the ground. The figures in table 2, chapter 3, showed how the amount of artillery deployed steadily increased over time. An increase in the reliance on artillery over the duration of an operation is not uncommon, largely due to the fact it is very difficult to realistically train with it. Thus, its effectiveness is often overlooked.

Unity of command was absolutely necessary, especially when the effects of the changes made to the chain of command early on in the first battle for Grozny manifested themselves. “The numerical superiority in many areas proved largely ineffective owing to departmental division and isolation and the absence of a unified command” (Karatuyev 1998, 40). A well-rehearsed and identifiable chain of command is required. Soldiers on the ground need to know whom to address to request fire and how best to do so. The decision to decentralize control of artillery increased its responsiveness considerably. Coordination of forward observers and forward air controllers, especially when grouped in the storm detachments, brought renewed flexibility to the delivery of fires. Airpower and artillery effects can have a positive psychological effect (Edwards 2000, 38).

The Russians eventually made good use of some of their artillery experience from Afghanistan, whereby responsive fire missions, such as the ambush and fire block, yielded good results (Hollis 1996, 8). Employment of these techniques needs to be practiced and included in current training, doctrine, and publications.

The need for artillery preparation in an attack, particularly in the urban environment, was a fact seemingly lost at the start of the first Chechen conflict. By the time of the second battle of Grozny it became the dominating factor in the assault, resulting in the isolation of pockets of resistance and the striking of key nodes before a ground attack.

Failure of the Russian military (possibly under political coercion) to use the full plethora of its available arsenal in the first Chechen conflict cost it dearly. The pervading view was that advanced weapons were too expensive to be “wasted” and should be kept for more “serious contingencies” (AFM Vol 2 Pt 5 2002, C-5-6). As extraordinary as this

may seem, it is not an isolated example; the withholding of AC-130 “Spectre” gunships from Task Force Ranger in Somalia is another example. When facing possible combat, all weapons must be made available to a commander, to include, particularly in urban operations, those that improve the chances of reducing collateral damage. During the second battle of Grozny precision weapons were used more extensively and to good effect.

The weather proved to be a large problem in the first conflict and prevented much of the air support from fulfilling its mission. Less reliance on close air support (CAS) in the second conflict was noted, as was a greater use of weather information in the planning of the operation. To rely heavily on CAS and aviation for fires and effects is always a mistake, as the weather can easily rule out their use.

While to most nations security of radio nets is not an issue and is done without thinking, many incidents of fratricide were precipitated by Chechen fighters using Russian radios (some preowned, but many captured). Artillery units were called to shell their own troops and aircraft ordered to drop ordnance on friendly troops. Strict security protocols must exist on radio systems. Encrypted radio systems were used more widely used in the second battle for Grozny.

Regarding command and control, the “joint” operation was poorly led and the NCMD was unable to cope with the scale of the operation. Coordination was weak between units, fratricide was rife due to deconfliction problems, and the MVD forces had no integral artillery support.

Training Lessons

The experience of World War Two, bought at a high price, had either been forgotten or simply ignored. (1999, 12)

Steven Main

Very little experience in modern warfare is entirely new. The collection of “experiences” and lessons is essential to future success. These lessons must also be incorporated into current doctrine and practiced; at least in the case of Russia’s experience in Chechnya, it is apparent that urban combat skills cannot be taught quickly. The required level of training should include these skills at all times. The Russian experiences from World War II and Afghanistan should have stood them in a good position for operations in Chechnya, but as these hard lessons were not carried forward, the Army paid for this mistake in blood. Not until the second battle of Grozny did the Russians fully utilize the wealth of experience available.

The propensity to train for urban operations is certainly on the increase but still remains woefully inadequate. Chechnya revealed many weaknesses of the artillery system per se suffered by the Russians, many of which could also be identified as failures in many NATO armies, for example, the use of specialized groupings for urban operations and the ability to mass and control direct fires. Even recent experiences in Iraq have led to comments of “inadequate training” and lack of “realistic joint force training” (Kemp 2004, 25). Urban training for artillery units must include direct fire training, especially given the effectiveness of artillery in this role experienced by the Russians.

Control of artillery is ever more difficult in urban terrain, and the Russians experienced unnecessary fratricide as a result of this. Troop safety procedures for “danger close” missions need constant practice and review, especially given the closeness of the

urban fight and enemy techniques to get inside the friendly indirect fire zone. Does the flexibility to deal with a fast moving, “thinking enemy” who employs “hugging” techniques to mitigate the use of artillery exist? Artillery-target procedures need to be understood down at the lowest levels in all arms and services, as the dedicated observers will not be able to cover every approach, street, or area.

The Russians suffered from a lack of training in many areas, especially in the employment of precision weapons. Procedures for the observer and gun position were unrehearsed and this caused crucial delays, in many cases ruling out the employment of the weapon system altogether. The decision to not put new recruits on the front line in the first six months of their service doubtlessly improved the quality of artillery batteries by the time of the second battle of Grozny.

Basic skills cannot be overlooked. “In limited ways, high technology can improve their chances [of survival], but . . . in this kind of war, you rely on smart soldiers as much as smart munitions, or even more” (Lieven 1999, 115). Combined arms and joint training were again shown to be essential; armies must continue to train as they perceive they will fight. The fighting around Grozny highlighted the importance and effectiveness of combined armed strikes.

Of all the factors perceived as critical to success in urban operations though, the human side of warfare seems to be one of the most important. Arthur Speyer of the Marine Corps Intelligence Agency has raised several key training issues that contribute to success. He states that the key to victory in urban operations is the “human will to fight.” The troops must be prepared to withstand long periods of intense combat in a chaotic environment with limited resupply or rest. The understanding of cultural aspects of the

“enemy” is essential and those of technology and equipment are secondary (Glenn 2000, 96-97). While focusing on artillery and its associated systems, the human side must always be considered. The linkage is clearly that the Russians underestimated the Chechens and their resolve. They did not also anticipate spending long periods of intense combat in a chaotic environment and the effect it would have on their forces.

Training artillery soldiers to conduct operations on urban terrain is not straightforward. Firstly, every artilleryman must have a basic understanding of the principles of urban fighting as an infantry soldier to give him the ability to not only survive and complete his mission, but also deploy if necessary as an infantryman, having been given the requisite training. Considering the often close proximity of urban combat, this makes perfect sense. Committing untrained soldiers to the battle is both criminal and negligent. “Some troops had just arrived [in Chechnya] from training units and had no idea how to operate as part of a unit. All they knew were individual soldier skills” (Glenn 1999, 607).

Urban combat training facilities are very expensive to build and maintain. Consequently, an army cannot afford to have to rebuild a facility after every live-firing exercise or training sortie, it having been leveled by artillery, air, or rocket fire. It is possible to train for urban fighting without live ammunition, but this is obviously not as effective. Certainly for gun and rocket batteries, live firing into urban areas is currently out of the question. It is possible though in many NATO training areas to actually conduct live firing from within the confines of urban combat training facilities. If tied into a suitable scenario and given the requisite enemy forces, this can be quite effective.

The main difficulty here lies with the training of observer parties in controlling

the effects of artillery in an urban environment (given the difficulties highlighted in chapter 2). Key difficulties exist in controlling artillery in an urban environment that are not present in a rural environment, given the reduced visibility, the containment of weapon effects, and difficulties in command and control, among others. Failure to at least identify these and be aware of their effects will lead to problems when an observer encounters them in urban combat. All too often, as happened in Chechnya, there is not time to go through on-the-job training. Direct fire training for Russian artillery units proved to be weak and led to many artillerymen having to learn the fundamentals in actual combat, a torrid situation to be in. Russia's history regarding artillery in the urban fight reveals that in the battle for Budapest (early 1945) 40 percent of all artillery fired was direct, and in the assault on Berlin (starting April 1945), this figure reached 80 percent (Bailey 1989, 73). Not only do artillerymen need to be trained on this, the infantry needs to understand the capability of direct fire and how best to integrate it.

Dry training in urban combat facilities can be effective. It must, however, rely on simulation for weapon effects through simple detonations and smoke generators or even more sophisticated methods, such as computer tracking and casualty assessment systems based on mathematical models of the effectiveness and distribution of fire, etc.

Training for observers can be conducted effectively on computer simulators that have the ability to show views of different terrain and replicate differing weapon effects. Using urban scenes regularly and practicing techniques specific to built-up areas to promote quick engagement while ensuring own troop safety would build up a reasonable skill level. Training with simulation is cost effective and allows key "players" to train together and learn from mistakes quickly. For example, mortar fire controllers and

infantry commanders can quickly build a working relationship with artillery observers. Training for infantry soldiers has developed significantly over the last decade as a result of experiences in Somalia and Chechnya, but, unfortunately, no worthwhile and comprehensive training system yet exists for artillery units.

In recent years the interest shown in MOUT has increased significantly, largely as a result of the growth of urban areas and recent battles. For example one study found that between 1978 and 1982, 260 issues of American Military Journals included only thirteen articles on MOUT (Slater 1982, 12), whereas now, post Chechnya, it is a subject of intense debate.

Equipment

Key to the Russian experience in Chechnya was the realization that “a dichotomy existed between the nature of threats which Russia faced, and the capability of its armed forces to deal adequately with them” (McDermott in Aldis 2003, 260). The Russian experience also confirmed concerns that “the reliability of many of their older weapon systems is uncertain and thus likely to undermine operations and put soldiers lives at risk” (Aldis 2003, 295), as well as the fact that “[t]he effectiveness of fire was impaired by the total lack of precision weapons” (Karatuyev 1998, 43).

Complex precision ammunition systems require a high degree of coordination and training both at the gun end and at the observer and designator end. Ways of making the system more autonomous are being investigated, especially for the fusing and setting of the shell before firing. Ideally no designation will be required once a suitable target has been identified and accurately located. This provides problems for moving targets, where the only real solution is for an autonomous shell akin to the SADARM series that

includes IR sensors to seek targets. For targets without radar or thermal signature though, the accurate designation or calculation of its coordinates will still be required. Current precision laser-guided shells are not easy to use; to avoid discounting them for this reason, they clearly need refining and simplifying. The advent of the Excalibur ammunition system should bring an excellent amount of precision to the artillery. As long as the system is easy to use and has a suitable warhead, it will be of great utility

The Russian military failed to use artillery- and mortar-locating radar to any effect. The net result of this gave the Chechens a free hand in setting up and employing the limited number of howitzers, rockets, and mortars they possessed. A concerted effort here would have soon eliminated a good number of these systems and thus reduced the amount of friendly losses. Failure to use these systems is put down to poor command and control and poor understanding of the capabilities of the systems.

The need for accurate reconnaissance was ignored for too long in the Chechnya campaign. In World War II sniper teams were infiltrated into cities to conduct reconnaissance and later called in artillery fire. The use of unmanned aerial vehicles in Chechnya was limited. The utility of the systems though was not lost in the subsequent reviews of the conflict. Calls for systems with day and night capability for targeting and laser designation were made by General Karatuyev in 2000 (Thomas 2000, 15).

The employment and proliferation of thermobaric weapons in Chechnya indicates their usefulness. In Western militaries, the usefulness of thermobaric weapons is now only just being fully realized. British forces in Operation TELIC were issued an off the shelf purchase of a bunker buster similar to a Shmel system for the operation. Currently

under development in the US are a thermobaric TOW missile system and a smaller 25mm shell (*Jane's International Defence Review* Jan 2004, 25).

The effectiveness and relatively low unit cost of the small versions of thermobaric weapons mean they will certainly be utilized by other nonfriendly nations. Countermeasures and procedures need to be determined and practiced to mitigate the effects of said weapons.

Aside from artillery thermobaric systems, the Russian Army has developed a full range of thermobaric systems referred to as “pocket artillery.” The range of equipment gives a range of capability with good accuracy. Included in this are thermobaric warheads for the METIS-M antitank missile, the RPG-7, the RPO-Shmel, and the GM-94 and LPO-97 handheld grenade launchers.

The Russian employment of heavy artillery systems is a capability currently lacking in the NATO inventory. The use of the 2S4 with the Smelchak precision mines proved devastating. While NATO forces can employ joint direct attack munitions (JDAM) that offer similar effects and characteristics, they are not as all-weather capable and need an expensive and vulnerable platform to deliver them.

In 2002 a new set of Russian combat regulations was published in draft form. Similar in many ways to the 1989 edition, they included a new chapter, “Actions to Localize and Terminate Armed Conflicts.” The same year the size of the training budget was increased. This indicates the Russian High Command may no longer be ignoring the lessons of the Chechen conflict. The continued investment in artillery is advocated by many and accepted as already happening by others. “Despite the much trumpeted Armaments Programme for 2001-2010, approved in early 2002, current budget allocation

provides only for cheap modernization of the available armaments, extending their already stretched service life” (Baev in Aldis 2003, 199); however, despite the life extensions, the poor condition of much of the inventory will result in many items being scrapped and thus a significant decline in equipment numbers (Sutcliffe and Hill in Aldis 2003, 295). The approaches adopted by the Russian military to counter a lack of funding with artillery has seen the spread of thermobaric weapons, which give more “bang for the buck,” especially the pocket artillery systems, and a continued investment in laser guided ammunition

Artillery displayed many of its great characteristics in Chechnya and certainly assured itself a place in the order of battle of the Russian Army of the future. A summary of the artillery lessons is listed in table 3.

Table 3. Summary Russian Artillery Lessons from Chechnya

<u>Rules of Engagement</u> ROE must be robust enough to support the operation from the outset. The ROE must allow commanders flexibility to operate. ROE must allow use of all available weapons. The balance between collateral damage issues and ROE is difficult to get right. Failure to psychologically prepare soldiers for urban combat has ROE implications. <u>Tactics, Techniques and Procedures</u> Artillery staffs must be included in operational planning from the beginning. Targeting concerns must be addressed when dividing up terrain. Key infrastructure nodes in a city are essential targets to destroy. A thorough artillery preparation of an assault target yields the best chance of success. Artillery is often best employed as single batteries attached to infantry battalions in the direct support role. Intelligence must be gathered and disseminated. Sufficient artillery must be deployed to support an operation. Too little costs lives. Unified command is essential. Units that intend to fight together, must train together. Target discrimination is very difficult and requires close, careful coordination.
--

Decentralized artillery groupings and control is essential in MOUT.
Detachments require artillery observers and forward air controllers.
Make all weapon systems available to the ground commander.
Over reliance on CAS causes problems in bad weather.
Radio security is absolutely essential.
Direct fire artillery is very useful in assaulting buildings, especially as it can engage overhead threats.
Fratricide can be reduced by careful artillery coordination, on one radio net.

Training

Effective urban training of soldiers cannot be accomplished in a short period.
Lessons from previous conflicts are often identified but rarely learned.
To claim full spectrum capability means training for it.
Specialized groupings are essential for urban fighting and must be trained for.
Artillery observers need to train for rapid response danger close missions.
Urban operations specific fire missions need to be included in training manuals and practiced.
All soldiers must possess a working knowledge of artillery target procedures.
Artillery procedures for direct fire support must be practiced and promulgated.
New recruits sent straight into combat are not effective.
The soldier is the most important factor in urban fighting.
Training facilities must accurately represent the urban fight as much as possible.

Equipment

Precision weapons are essential but must be employable and responsive.
Equipment used in urban fighting needs adequate protection - particularly engine compartments.
Self-propelled artillery has great utility inside cities.
Self-propelled rapid firing anti-aircraft weapons have tremendous utility in supporting urban assaults (such as the ZSU-23-4).
Weapon locating radar must be tied into the artillery C2 system and coordinated.
Thermobaric weapons are devastatingly effective in confined areas.
A range of calibers of thermobaric weapons is very useful.
Heavy precision ammunition provides quick accurate effects, especially on concreted bunkers.

CHAPTER 6

CONCLUSION

Conclusion

The battlefield of the future will more than likely consist of some type of urban warfare. During combat operations in Iraq, units defeated dismounted attacks, cleared buildings, engaged suicide bombers, cleared bunkers and trenches, engaged armor vehicles, and requested indirect fire in an urban area, all at one objective and at the same time.

Armor Company Commander, 3ID OIF AAR

The study by all commanders of the various Russian military campaigns in Chechnya is eminently worthwhile. In many cases it exhibits the “worst case scenario” of many of the aspects of urban operations. It also offers useful insights into how a military adapted over time to overcome problems, both large and small, that it faced in fighting what was viewed as a “low-tech” terrorist organization in a built up area. The aim of this thesis has been to provide a better understanding of the conduct of urban operations in Chechnya by the Russian artillery and rocket forces. Ideally, it will also encourage further thinking as to the application of artillery in urban operations and serve as a basis for further doctrine development.

The lessons learned from the study of the conflict in Chechnya do not formulate a template for the conduct of attacking cities, nor should they be used as such. The lessons should be used to assist in the understanding of the difficulties and the many considerations of urban fighting.

For artillery commanders, a detailed understanding of the use of artillery in urban areas is absolutely fundamental, given the preponderance of the global population moving to live in cities and conurbations. The need to be familiar with the tactics,

techniques, and procedures that can be employed to overcome a determined enemy in urban operations cannot be underestimated.

Time and the ability to train will certainly be factors that are usually constrained, when and if urban operations become a necessity. To ignore the need for the capability to be able to conduct operations in urban areas will not make the potential problem go away, or make it any easier to face. This was the approach adopted by the Russian military in the early 1990s, and they paid dearly for it. To quote the Confucian Sage Mencius, “Those who send people on military operations without educating them ruin them” (Cleary 1988, 24).

The proportion of self-propelled artillery deployed over the course of the conflict in Chechnya grew steadily to around 70 percent of the total amount of artillery deployed. In supporting the storm groups, the mobility and protection afforded by self-propelled systems proved to be what was required to deliver the necessary effects.

Artillery was used extensively throughout the conflict in Chechnya. There is often a pervasive view espoused by many that fighting in cities is infantry work, despite writings to the contrary. The Russians, through necessity, developed techniques and procedures to overcome the restrictions of the “urban jungle” and attempted to prepare their soldiers for operations there (although their training was still very basic).

The limited amounts of precision weapons available to an artillery commander can restrict the quantity of satisfactory support that can be provided without causing high collateral damage and noncombatant casualties. Current artillery weapons effects can be of limited utility in urban operations, given the current range of delivery means, limited specific ammunition, and (usually) restrictive ROE. The Russian employment of heavy

precision mortars presents one possible solution. Given that artillery is the only twenty-four-hour, all-weather strike system available, it should not be marginalized even if it does not have the ability to deliver sufficient effects. The Russians suffered a heavy defeat at the hands of a low-tech ad-hoc force, but, ergo, technology must not be seen as the panacea to urban fighting. It must be backed up with hard training and thinking soldiers and commanders.

Execution of urban operations by artillery units requires unique tactics, techniques, and procedures that cannot be learned overnight, as the Russians found out to their cost. Many modern militaries claim to possess “full spectrum capabilities” when in many cases this is just rhetoric. Training facilities must be realistic and provide quality, realistic training. In *Mars Unmasked: Lessons from 50 years of MOUT*, experiences have identified that multinational operations have the best chance of success when infantry, artillery, and armor train and develop doctrine together; while this is possibly obvious, it is easily overlooked.

Suitable artillery doctrine and procedures for urban operations need to be established, practiced, refined, and embedded. Current US joint and Army doctrine, to include field artillery doctrine, does not cover the use of artillery in urban operations in any detail. Much concern has been aired in the US military of the “doctrinal guidance regarding avoidance of urban operations” (Glenn 1998, 3).

In a war against an “asymmetric” enemy, the use of artillery is fraught with difficulty. ROE will frequently prevent the engagement of many targets and a ‘thinking’ enemy will exploit this to the full.

Given the proliferation of artillery throughout the Chechen theater and the devastation it caused, it did prove effective and was felt by many to have “carried the day.” It did, however, fail to protect Russian ground forces in close combat. Moreover, artillery bombardment of cities and towns was not enough to guarantee their pacification (Oliker 2001, 58). That aside, Russian casualties were significantly fewer in the second conflict than in the first. This can be directly attributed in part to the changes in the tactical use of artillery. As highlighted previously, it gave Russian ground forces greater flexibility in the delivery of indirect fire with a simpler system of coordination. Intimate fire support was provided by artillery assigned to infantry maneuver formations.

The inability of the Russians to engender the widespread need for military reform cost them dearly by the time of the second fight for Grozny. Recognition and training for the need to fight across the full spectrum of operations was not present in the Russian military, despite the experience of having fought for several years in Afghanistan against the Mujahadeen. The inadequacies of some Russian equipment have indicated that the military is still not capable of operating in the new threat environment.

The use of artillery in urban areas cannot be templated or fit into a traditional model such as that of “Russian normative fire planning.” Each conflict will have unique characteristics that will demand unique solutions. Artillery equipment, tactics, and soldiers need to be able to meet the full range of solutions and apply effects flexibly. An article in *Armeyskiy Sbornik* partially summed this up: “It is obvious that there can be no recommendations for employing artillery in taking a city either in terms of duration or method of fire. The fact is that in one case, troops take a city using all weapons without

restriction and, in another case, [they are] under orders to preserve the city as a cultural and economic centre” (Leonenko 1995, 33).

Despite all the information and experience available, it is suggested that the Russian military failed to adequately transform to develop a suitable urban fighting capability and thus resorted to fighting with as much standoff as possible. In his article “Reform and the Russian Ground Forces,” Michael Orr suggests that, despite the structural and readiness changes achieved in the interconflict period 1995-1999, in terms of doctrine and training “the ground forces were still not prepared for limited war or counter-insurgency.” Conversely where many saw the 1994 fighting as the demise of the Russian military, the apparent successes of 1999-2000 are seen as a signal of “Russia’s resurgence” (Oliker 2001, 81), especially given its transformation and adaptation at the tactical level. All armies, especially in the face of a defeat, need to possess the ability for rapid and critical evaluation that can lead to adaptation and reform.

Can we afford to ignore the lessons identified in Chechnya, until we find ourselves at the gates of another urban jungle? Current NATO artillery systems are not optimized for use in urban operations. Sufficient doctrine does not exist that will allow proper planning and execution of operations. Training facilities do not exist in sufficient numbers. Precision systems have received insufficient funding to make them user-friendly and to make them more autonomous, thus giving them utility in urban operations. Future ROE may well deny the luxury of massing fires to prevent friendly casualties and, as such, individual skill, leadership, and precision fires will be all the more important.

Recommended Topics of Future Study

Is there a role for heavy weapons in urban operations? The logistic implications of operating with a larger ammunition system will affect mobility and resupply. The trade off between weight of round and effectiveness at the target end, particularly against fortified positions, should be investigated. Is it possible to use current delivery means to deliver a round with greater penetration characteristics? Is there utility in developing a weapon with a larger caliber and how would it be employed?

The integration and use of close air support in urban operations is an area that warrants further investigation. The intricacies of coordination and the minimizing of collateral damage (given the new array of weapons) are not yet fully embedded in doctrine.

What is the best method of training for urban operations? Artillery training for urban operations is a large and yet relatively unresearched area. The profusion of writings that exists on the issue of infantry training is not matched by those available on artillery training. Large gaps exist in this field. This could be delineated into gun position training, observer training, and effects planning training.

Are NATO nations facing a capability imbalance regarding thermobaric weapons? The Russian military (and thus by virtue, several of their allies and arms purchasers) fields a full family of thermobaric weapons from the hand-held Shmel to the longer range Bratino, Uragan, and Smerch rocket systems. Is this an area that needs further study in order to redress the balance, or is it a capability NATO does not need?

Joint doctrine does not sufficiently cover the employment of artillery in urban operations. Given the lessons from Chechnya and more recently from hostilities in Iraq,

sufficient additions and amendments need be made to joint doctrine. Until the approach to urban fighting fundamentally changes, a policy of damage limitation based on “fire fighting” the situation will continue to be pursued.

Does the joint force require a separate force structure for conducting combat operations in the urban area? Is the joint force adequately organized and structured for the ever increasing threat of urban operations? Are current structures a help or a hindrance?

Is the decision by the US field artillery to run down its stocks of Copperhead rounds and replace them by SADARM a mistake, given the contemporary operating environment? It has effectively removed its ability to deliver precision strikes by artillery in an urban environment against strong points, dug in troops, key nodes, etcetera until the arrival of the Excalibur round.

REFERENCE LIST

- Ackerman, Robert. 2000. Echoes of Chechnya resound in Moscow. *Signal Magazine* vol. 54, no.9 (May): 39-44.
- Aldis, Anne, ed. 2000. *The second Chechen war*. Swindon, Wiltshire, United Kingdom: British Army Review Printing Press. Strategic and Combat Studies Institute
- Aldis, Anne, and Roger McDermott, eds. 2003. *Russian military reform 1992-2002*. Conflict Studies Research Centre. London, United Kingdom: Frank Cass Publishers.
- Arbatov, Alexi. 2000. *The transformation of Russian military doctrine: lessons learned from Kosovo and Chechnya.*, No 2. Garmisch-Partenkirchen, Germany: The Marshall Centre Papers.
- Army Field Manual. 2002. *Volume 2 - Operations in specific environments. Part 5: Urban operations*. Electronic Battle Box [CD-ROM]. Directorate General of Development and Doctrine. 6th ed. Army Code 71632. Upavon, Wiltshire, United Kingdom: DGD&D Publications Section.
- Army Doctrine Publication. 1994., *Volume 1 - Operations*, Electronic Battle Box [CD-ROM]. Directorate General of Development and Doctrine. 6th ed. Army Code 71632. Upavon, Wiltshire, United Kingdom: DGD&D Publications Section.
- Baev, Pavel. 2000. *Will Russia go for a military victory in Chechnya?* Conflict Studies Research Centre, Occasional Brief 74. Swindon, Wiltshire, United Kingdom: British Army Review Printing Press.
- _____. 2003. The challenge of 'small wars' for the Russian military. *Russian Military Reform, 1992-2002*. London, United Kingdom: Frank Cass Publishers.
- Bailey, Jonathan. 1989. *Field artillery and firepower*. Hampshire, United Kingdom: The Oxford Military Press.
- Barley, D. A. 2000. Are we prepared for the challenges of future operations in the urban environment? *British Army Review* 125 (autumn): 16-25.
- Bellamy, Chris. 1986. *Red god of war: Soviet artillery and rocket forces*. London, United Kingdom: Brassey's Defence Publishers.
- Belkin, A. A. 1995. War in Chechnya: impact on civil-military relations in Russia. Article on-line. Available from http://www.ccc.nps.navy.mil/people/tsypkinConf/Belkin_.doc. Internet. Accessed on 16 November 2003.

- Blandy, C. W. 2001. *Chechnya: dynamics of war brutality and stress*. Conflict Studies Research Centre. Paper 35. Swindon, Wiltshire, United Kingdom: British Army Review Printing Press.
- Blank, Stephen J., and Earl H. Tilford Jr. 1995. *Russia's invasion of Chechnya: A preliminary assessment*. US Army War College. Carlisle Barracks, PA: War College Press. Strategic Studies Institute
- Bulatov, O. G., S. V. Lomanchenko, and S. L. Gavrilovich. 2001. Heavy artillery: Notes on the evolution. *Military Thought (Voennaia mysl)* (March): 4-12.
- Bulatov, A. F. 2001. Methods of taking cities and how to use them. *Military Thought (Voennaia mysl)* (March): 16-22.
- Celestan, Gergory J. 1997. Red storm: The Russian artillery in Chechnya. *Field Artillery Journal* (January-February): 42-45.
- Cleary, Thomas. 1988. *The art of war: Sun Tzu*. Boston: Shambhala Publications.
- Cooling, Norman. 2001. Russia's 1994-96 campaign for Chechnya: A failure in shaping the battlespace. *Marine Corps Gazette* 85, no. 10 (October): 58-70.
- Dimidyuk, N. 1995. Army missile forces and artillery: Problems and solutions. *Military Thought (Voennaia mysl)* 4, no. 2: 2-8.
- Edwards, Sean. 2000. *Mars unmasked: The changing face of urban operations*. The RAND Corporation. Santa Monica, CA: RAND publishers.
- Evangelista, Matthew. 2002. *The Chechen wars: Will Russia go the way of the Soviet Union?* Washington, DC: Brookings Institute Press.
- Faurby, Ib. 1999. The battle(s) of Grozny. *Baltic Defence Review*, 2: 75-87.
- Federation of American Scientists, Military Analysis Network. 2000. *Second Chechnya war 1999-???*. [article on-line]; Available from <http://fas.org/man/dod101/ops/war/chechnya2.htm>; Internet; Accessed on 6 August 2003.
- Fesenko, Yuri. 2003. Future trends in precision arms development. *Military Thought*, January-February edition: 12-20
- Field Manual 3-0. 2001. *Operations*. U.S. Army. Washington, D.C.: HQ Department of the Army.
- Field Manual 3-06. 2003. *Urban operations*. U.S. Army. Washington, D.C.: HQ Department of the Army.

- Field Manual 101-5-1. 1997. *Operational terms and graphics*. U.S. Army. Washington, D.C.: HQ Department of the Army.
- Finch, Raymond, 1998. *Why the Russian military failed in Chechnya*. FMSO Special Study. Fort Leavenworth, KS: FMSO publications.
- Fowkes, Ben. 1998. *Russia and Chechnia: The permanent crisis*. Hampshire, United Kingdom: Macmillan Press.
- Gall, Carlotta, and Thomas de Wall, 1998. *Chechnya: calamity in the Caucasus*. New York, NY: New York University Press
- Glenn, Russell W., ed. 1998. *Marching under darkening skies: The American military and the impending urban operations threat*. Santa Monica, CA: RAND Corporation.
- _____. 1999. *The city's many faces*. Santa Monica, CA: RAND Corporation
- _____. 2001. *Capital preservation: Preparing for urban operations in the twenty-first century*. Santa Monica, CA: RAND Corporation
- Gordon, John. 1988. The evolution of Soviet fire support, 1940-1988. *Field Artillery*, June.
- Grau, Lester, and Jacob Kipp. 1999. *Urban combat: Confronting the specter*; Article on-line. Available from <http://fmso.leavenworth.army.mil/fmsopubs/issues/urbancombat/urbancombat.htm>. Internet. Accessed on 1 October 2003.
- Grau, Lester, and Timothy Smith. 2000. A crushing victory: Fuel-Air explosives and Grozny 2000. *Marine Corps Gazette*, Vol. 84, Issue 8 (August): 30-34.
- Grau, Lester, and Timothy Thomas. 2000. *Russian lessons learned from the battles for Grozny*. Article on-line. Available from http://fmso.leavenworth.army.mil/fmsopubs/issues/Rusn_leslrn.htm. Internet. Accessed on 12 Sept 2003.
- Gritton E. C. and P. S. Anton. 2003. Headlines over the horizon. *The Atlantic Monthly* 292, no. 1(July - August): 84-90.
- Hills, Anne. Strategies for operations in cities. *British Army Review* 126: 19-25.
- Hollis, Patrecia. 1993. Fighting with fires: The Russian way. *Field Artillery Journal* (August): 6-9.
- _____. 1996. The Russian god of war in transition – From quantity to quality. *Field Artillery Journal* (Nov/Dec): 7-9.

- Hull, Andrew, David Markov, and Steven Zaloga. 1999. *Soviet/Russian armor and artillery design practices: 1945 to Present*. London, United Kingdom: Darlington Publications.
- Human Rights Watch (HRW). 2000. *Deaths during the shelling of Alkhan-Yurt*. Article on-line. Available from http://www.hrw.org/reports/2000/russia_chechnya2/Rusch004-03.htm#P201_26359. Internet. Accessed on 10 Nov 2003.
- _____. 2000. *Backgrounder on Russian fuel air explosives "Vacuum Bombs."* Article on-line. Available from <http://www.hrw.org/press/2000/02/chech0215b.htm>; Internet. Accessed on 23 September 2003.
- Jary, S., and R. Carbuncle. 1999. In the jungle of the cities: Operations in built-up areas. *British Army Review* 122 (April): 14-22.
- Joint Publication 1-02. 2001. *Dictionary of military and associated terms*. Washington D.C.: Department of Defense.
- Joint Publication 3-60. 2002. *Joint publication for targeting*. Washington D.C.: Department of Defense.
- Jones, Steven. 2003. *Re-examining tomorrow's battlefield: Taking the fight to the cities*. Volume S03-01. Course Issue Paper, Centre for Strategic Leadership, US Army War College.
- Kalinovskii, O. 1996. Assessing fire capabilities of troops. *Military Thought* 5, no. 5: 95-101.
- Karatuyev, M. 1998. Military forces and artillery in local wars and armed conflicts. *Military Thought* 7, no 1: 28-34.
- Karatuyev, M., and V. Dreshchinskiy. 1996. Specifics of the employment of artillery in local wars and armed conflicts. *Military Thought* 3, no. 3: 22-28.
- Kemp, Damian. 2004. Urban warfare training: City limits. *Jane's Defence Weekly* 41, no. 1 (January): 24-27.
- Kilunin, V. 1998. New views on urban warfare. *Military Thought* 7, no. 3: 8-13.
- Kneyzs, Stasys, and Romanas Sedlickas. 1999. *The war in Chechnya*. College Station, TX: Texas A&M University Press.
- Kulikov, Anatoliy. 1999. Trouble in North Caucasus. *Military Review* 89, vol. 134, no. 4 (July-August): 41-51.
- Leonenko, Sergey. 1995. Capturing a city. *Army Digest*, no. 3: 31-35.

- Lieven, Anatol. 1998. *Chechnya: Tombstone of Russian power*. New Haven, CT: Yale University Press.
- _____. 1998. The world turned upside down: Military lessons of the Chechen war. *Armed Forces Journal International* 36, no. 1 (August): 40-43.
- Main, Steven J. 2000. *North Caucasus military district: Defending Russia's interests in the Caucasus (1996-August 1999)*. Conflict Studies Research Centre. Paper A101. Swindon, Wiltshire, United Kingdom: British Army Review Printing Press.
- Manilov, Velerii. 2000. The war in Chechnya. *RUSI Journal* 145, no. 3 (June): 28-30.
- Matyash, Vladimir. 2000. Armor, artillery in Chechnya assessed. *Moscow Krasnaya Zvezda (Red Star)*. 17 May. 1-5.
- National Intelligence Council. December 2000. *Global trends 2015*. Available from <http://www.cia.gov/cia/reports/globaltrends2015/index.html>. Internet. Accessed 12 October 2003.
- Nussio, Ricky J. 2001. Tanks in the streets: Lessons learned through bytes not blood. Monograph, School of Advanced Military Studies, Fort Leavenworth, Kansas.
- Odintsov, Vladimir. 2000. Do we need assault guns? *Military Parade*. March. Journal online. Available at www.milparade.com/2000/38/03_01.shtml. Internet. Accessed 27 Aug 2003.
- _____. 2003. The 'Tver': A gun for the company. *Voyennoye Obozreniye. Military Review*, (September): 2-5.
- Oliker, Olga. 2001. Russia's Chechen wars 1994 -2000: Lessons from urban combat. The RAND Corporation. Santa Monica, CA: RAND publishers.
- Orr, Michael. March 2000. Second time lucky? Evaluating Russian performance in the second Chechen war. Article on-line. Available at <http://www.fas.org/man/dod-101/ops/war/docs/JIRArticle.htm>. Internet. Accessed on 13 Oct 2003.
- Peters, Ralph. 1997. The future of armored warfare. *Parameters* 27, no. 3 (autumn): 50-59.
- Pilloni, John. 2000. Burning corpses in the streets: Russia's doctrinal flaws in the 1995 fight for Grozny. *The Journal of Slavic Military Studies* 13, no. 2 (June): 39-66.
- Politkovskaya, Anna. 2001. *A Dirty War: A Russian reporter in Chechnya*. London, United Kingdom: The Harvill Press.
- RAND Coporation. 1998. *Denying the widow maker*. RAND Arroyo Centre. Santa Monica, CA: RAND Corporation.

- Raevsky, Andrei. 1995. Russian performance in the Chechen war: A preliminary Assessment. *The Journal of Slavic Military Studies* 8, no. 4 (December): 680-685.
- Ritter, Gerhard. 1968. *Frederick the Great : A historical profile*. Berkeley, C.A.: University of California Press.
- Robertson, William, ed. 2003. *Block by block: The challenges of urban operations*. Fort Leavenworth, KS: US Army Command and General Staff College Press.
- Scales, Robert. 2003. Artillery's failings in the Iraq war. *Armed Forces Journal* 141, no. 4, (November): 44-48.
- Seely, Robert. 2001. *Russo-Chechen conflict, 1800-2000: A deadly embrace*. London, United Kingdom: Frank Cass Publishers.
- Slater, Paul. 1982. Field artillery and the urban battle. *Field Artillery Journal* 50, no 1 (January/February): 8-13.
- Slipchecenko, Vladimir I. 1993. A Russian analysis of warfare leading to the sixth generation. *Field Artillery*. October: 38-41.
- Thomas, Timothy. 2000. Grozny 2000: Urban combat lessons learned. *Military Review* 130, no.4, (July/August): 50-58.
- Turabian, Kate L. 1996. *A manual for writers*. 6th ed. Chicago: University of Chicago Press.
- Van Dyke, Carl. 1996. Kabul to Grozny: A critique of Soviet (Russian) counter-insurgency doctrine. *The Journal of Slavic Military Studies* 9, no. 4: 689-705.
- Vorobyev, I. 1998. Tactics in local wars and armed conflicts. *Military Thought* 7, no. 2: 39-45.
- Zakharov, A, V Vypasniak and A, Selivanov. 1998. Precision weapons in a combined-arms operations. *Military Thought* 7, no. 4: 29-34.
- Zaritskiy, V. N. Missile forces and artillery: reforming problems. *Military Thought* 9, no 3: 12-20.

INITIAL DISTRIBUTION LIST

Combined Arms Research Library
U.S. Army Command and General Staff College
250 Gibbon Ave.
Fort Leavenworth, KS 66027-2314

Defense Technical Information Center/OCA
825 John J. Kingman Rd., Suite 944
Fort Belvoir, VA 22060-6218

Dr. Harry Orenstein
CADD
USACGSC
1 Reynolds Ave.
Fort Leavenworth, KS 66027-1352

Mr. Timothy Thomas
Foreign Military Studies Office
101 Meade Ave.
Fort Leavenworth, KS 66027-1351

Mr. Herb Merrick
DJMO
USACGSC
1 Reynolds Ave.
Fort Leavenworth, KS 66027-1352

CERTIFICATION FOR MMAS DISTRIBUTION STATEMENT

1. Certification Date: 18 June 2004
2. Thesis Author: Major Richard D. Wallwork
3. Thesis Title: Artillery in Urban Operations: Reflections on Experiences in Chechnya

4. Thesis Committee Members: Dr. H. Orenstein, Mr. T. Thomas, and Mr. H. Merrick

Signatures:

5. Distribution Statement: See distribution statements A-X on reverse, then circle appropriate distribution statement letter code below:

☒ A B C D E F X SEE EXPLANATION OF CODES ON REVERSE

If your thesis does not fit into any of the above categories or is classified, you must coordinate with the classified section at CARL.

6. Justification: Justification is required for any distribution other than described in Distribution Statement A. All or part of a thesis may justify distribution limitation. See limitation justification statements 1-10 on reverse, then list, below, the statement(s) that applies (apply) to your thesis and corresponding chapters/sections and pages. Follow sample format shown below:

EXAMPLE

<u>Limitation Justification Statement</u>	/	<u>Chapter/Section</u>	/	<u>Page(s)</u>
Direct Military Support (10)	/	Chapter 3	/	12
Critical Technology (3)	/	Section 4	/	31
Administrative Operational Use (7)	/	Chapter 2	/	13-32

Fill in limitation justification for your thesis below:

<u>Limitation Justification Statement</u>	/	<u>Chapter/Section</u>	/	<u>Page(s)</u>
	/		/	
	/		/	
	/		/	
	/		/	
	/		/	

7. MMAS Thesis Author's Signature: _____

STATEMENT A: Approved for public release; distribution is unlimited. (Documents with this statement may be made available or sold to the general public and foreign nationals).

STATEMENT B: Distribution authorized to U.S. Government agencies only (insert reason and date ON REVERSE OF THIS FORM). Currently used reasons for imposing this statement include the following:

1. Foreign Government Information. Protection of foreign information.
2. Proprietary Information. Protection of proprietary information not owned by the U.S. Government.
3. Critical Technology. Protection and control of critical technology including technical data with potential military application.
4. Test and Evaluation. Protection of test and evaluation of commercial production or military hardware.
5. Contractor Performance Evaluation. Protection of information involving contractor performance evaluation.
6. Premature Dissemination. Protection of information involving systems or hardware from premature dissemination.
7. Administrative/Operational Use. Protection of information restricted to official use or for administrative or operational purposes.
8. Software Documentation. Protection of software documentation - release only in accordance with the provisions of DoD Instruction 7930.2.
9. Specific Authority. Protection of information required by a specific authority.
10. Direct Military Support. To protect export-controlled technical data of such military significance that release for purposes other than direct support of DoD-approved activities may jeopardize a U.S. military advantage.

STATEMENT C: Distribution authorized to U.S. Government agencies and their contractors: (REASON AND DATE). Currently most used reasons are 1, 3, 7, 8, and 9 above.

STATEMENT D: Distribution authorized to DoD and U.S. DoD contractors only; (REASON AND DATE). Currently most reasons are 1, 3, 7, 8, and 9 above.

STATEMENT E: Distribution authorized to DoD only; (REASON AND DATE). Currently most used reasons are 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

STATEMENT F: Further dissemination only as directed by (controlling DoD office and date), or higher DoD authority. Used when the DoD originator determines that information is subject to special dissemination limitation specified by paragraph 4-505, DoD 5200.1-R.

STATEMENT X: Distribution authorized to U.S. Government agencies and private individuals of enterprises eligible to obtain export-controlled technical data in accordance with DoD Directive 5230.25; (date). Controlling DoD office is (insert).