

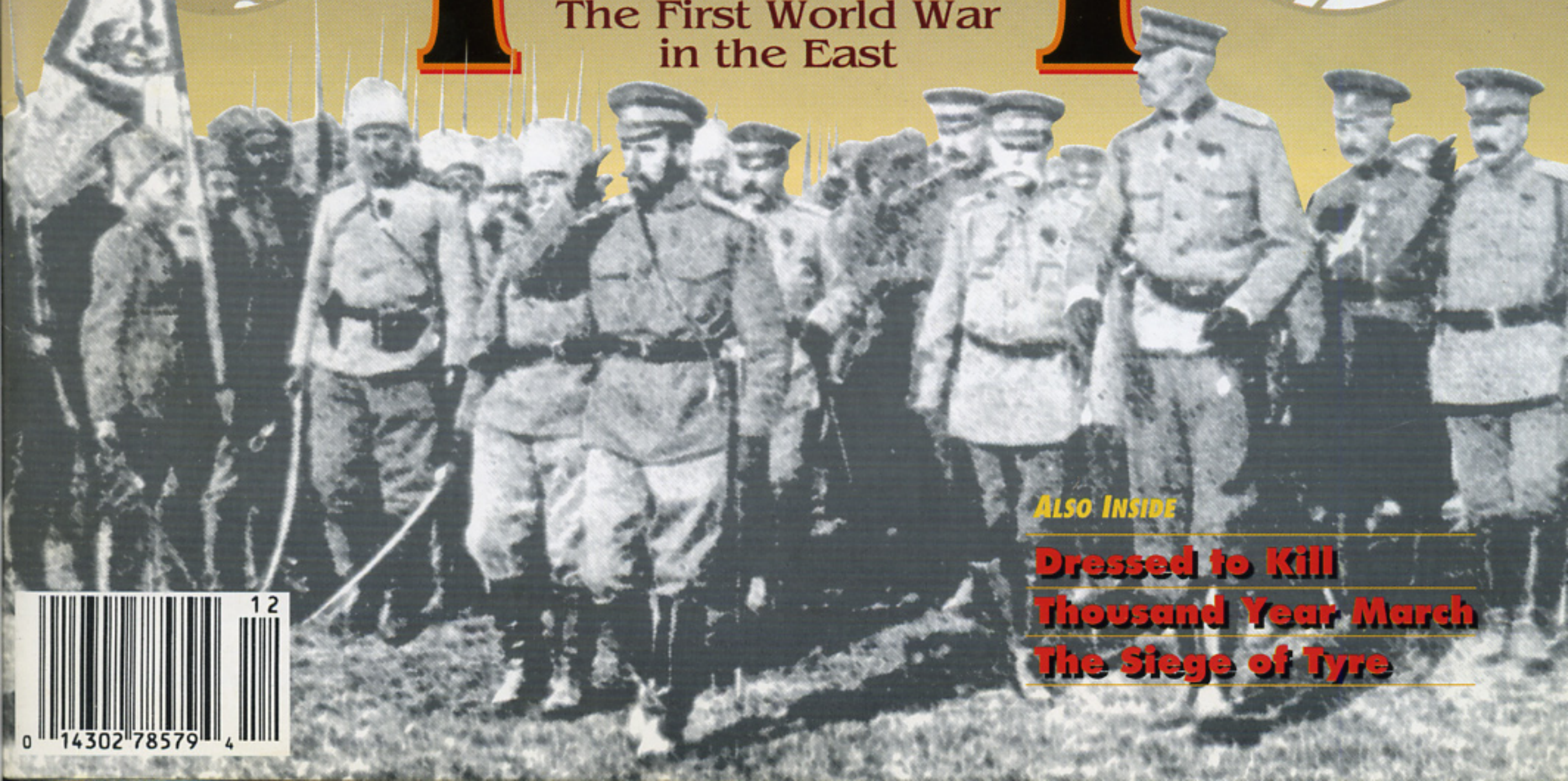
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COMMAND

MILITARY HISTORY, STRATEGY & ANALYSIS

WHEN EAGLES FIGHT

The First World War
in the East



ALSO INSIDE

- Dressed to Kill**
- Thousand Year March**
- The Siege of Tyre**



The Storm Breaks, 1939-41

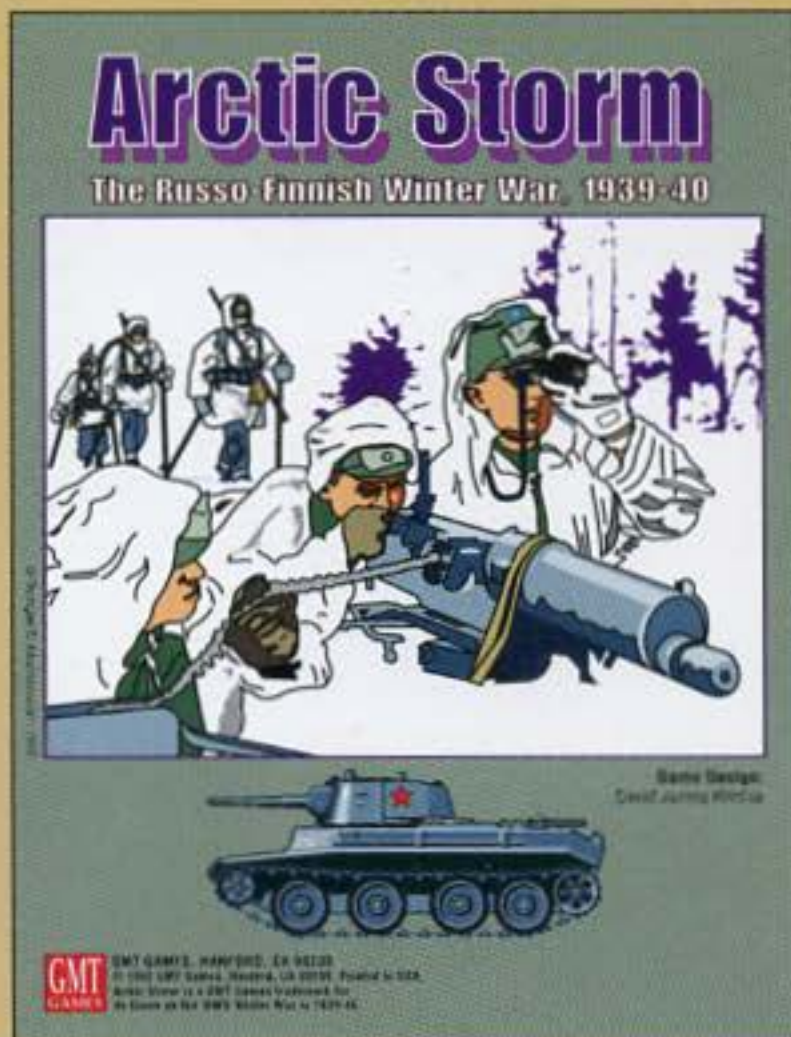
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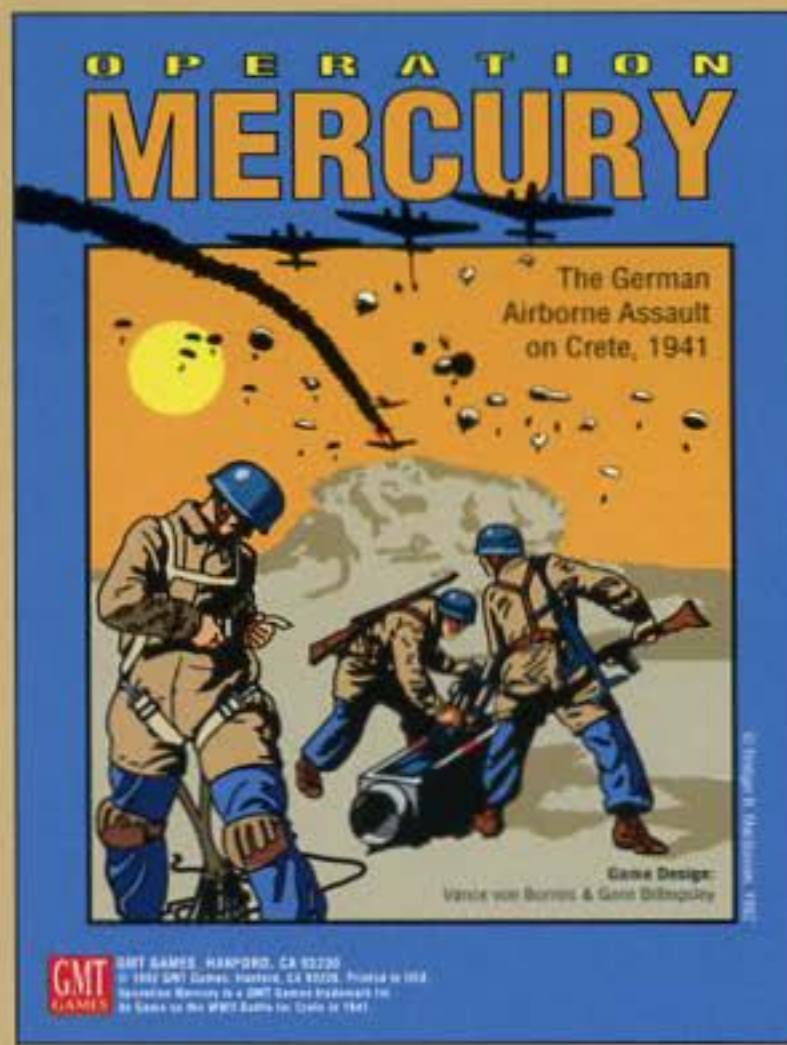


Arctic Storm
The Russo-Finnish Winter War, 1939-40
In November, 1939 Stalin's Red Army invaded the tiny nation of Finland. The Russians had 600,000 troops; the Finns had 30,000. The Soviets had 1700 tanks and 3000 aircraft, the Finns had 60 and 150 of each respectively.

Arctic Storm recreates this four-month Winter War. Using an elegantly simple game system, **Arctic Storm** accurately portrays all of the important elements of the first major war ever fought in arctic conditions.

Game Design: David James Ritchie
Game Developers: Richard Berg & Gene Billingsley

Unit Scale: Division/Brigade
Time Scale: 1 Week per Turn
Map Scale: 24 km per Hex
Players: 1-2



Operation Mercury
The German Airborne Assault on Crete
In May, 1941 Hitler's paratroopers launched an airborne invasion of the island of Crete. British, Greek, Australian and New Zealand resistance made them pay a heavy price – one-in-four paratroopers were killed-in-action.

Operation Mercury recreates this eight day struggle, using the Operational Game System from GMT's Award winning **Operation Shoestring** and **AirBridge to Victory** which allows for multiple combat options.

Game Design: Vance von Borries & Gene Billingsley
Art Director: Rodger B. MacGowan

1 Koch 8
2-2-5

Ju87
4-4

22N2
3 5
4-5-5

5/II/Sturm
1 8
2-2-5

BB
Wingsite
8-3-6

Unit Scale: Company/Battalion
Time Scale: 8 hours per Turn
Map Scale: 1.5 km per Hex
Players: 1-4

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Game Features	Arctic Storm	Mercury
Counters	200	400
Maps (22x34 inch)	One	Two
Playing Time	2-5 hrs.	2-6 hrs.
Solitaire Playability	Yes	Yes
Scenarios	Multiple	Multiple
Special Rules	Yes	Yes
Unit Scale	Division	Battalion



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	Arctic Storm: Winter War	\$23.00	
	Operation Mercury: Crete	\$28.00	
	SPQR: Art of Roman Warfare	\$40.00	
	War Elephant Module Nr.2	\$14.00	
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COMMAND

MILITARY HISTORY, STRATEGY & ANALYSIS

NOV-DEC 1993

ISSUE 25

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A Note From the Editor

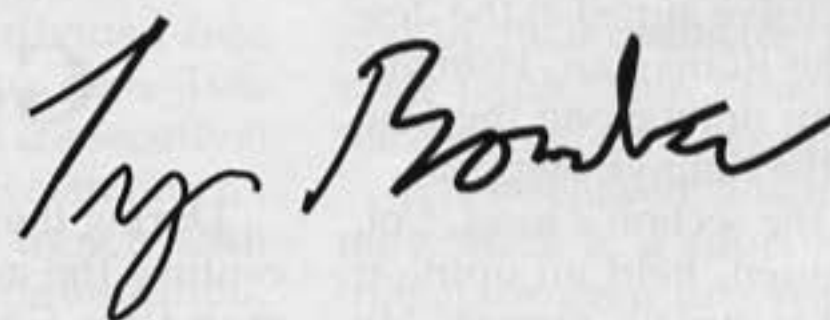
The feedback voting results for issue no. 23 came in like this:

Serbia in World War I	7.33
Baltic Assault	6.99
Sepp Dietrich	6.94
Sekigahara.....	6.88
Clash of Steel	6.71
Issue No. 23 Overall	6.69
War Returns to Europe.....	6.68
The Baltic States	6.44
Cover Art	6.38
Short Rounds.....	6.00
Commentary.....	5.57
I Remember.....	5.61

In comparing issue no. 23 with no. 22 (Antietam), 28 percent thought 23 was the better of the two; 41 percent thought they were of about equal worth; 27 percent thought issue no. 22 was superior to no. 23, and 4 percent offered no opinion.

The big news this time around is we're now part of the *America On Line* computer network. You'll find us in the "Game Company Support" section (keyword: GCS), with our own topic file: "COMMAND Magazine". We're there to discuss both this magazine and the wargames we publish. I try to sign on once each day, so you can count on getting a fairly quick "official" response to any questions or comments you have. For purposes of sending e-mail to me, my "screen name" is "TryoneB998".

To the many who enjoyed Timothy Kutta's "Serbia in World War I" in issue no. 23, I'd like to recommend you turn to David Tschanz's article starting on p. 38 of this issue. He presents an important new consideration about the WWI Balkan Front: the (amazing) medical perspective.



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Distributed free	2,448	719
Total Distribution	15,276	15,372

I certify that the statements made by me above are correct and complete.

Christopher Perello
Business Manager

SHORT ROUNDS

Mysteries Revealed...

German Predictions of the 1942 Soviet Winter Counteroffensive

During World War II, the "12th Department" of the German General Staff, *Abteilung Fremde Heere Ost* (the Foreign Armies East Section), had the task of determining Soviet movements and plans on the Eastern Front. To gain such knowledge, the section sifted and analyzed intelligence gathered from air reconnaissance units, secret agents behind enemy lines, prisoners of war, and reports from German units at the front.

As early as 29 August 1942, the section forecast the possibility of a Soviet counteroffensive against German Army Group B at Stalingrad. Their report outlined three possible plans: 1) a direct offensive to recapture all of Stalingrad; 2) an attack through the flank of German *6th Army*, with the final objective of Rostov (thus effectively cutting off Army Group A in the Caucasus); and 3) an offensive aimed at the destruction of the Romanian, Hungarian, and Italian units along the Don River and in the Kalmyk Steppe.

However, the section's head, Col. Reinhard Gehlen, held an opinion counter to his unit's report. He believed the Soviets' main effort that winter would be made against Army Group Center, opposite Moscow, and not at Stalingrad. Accordingly, in mid-October the section issued a new document, this one predicting the Red Army would soon attempt to smash through Army Group

Center, with the ultimate objective of reaching the Baltic states. The same report mentioned a secondary drive might be launched against the Don line after the mud season ended, and also predicted the enemy would be content to hold his ground on the Caucasus front farther south.

But shortly after that second report was issued, the section began to receive information indicating a huge build up of Soviet troops was taking place just north of the Don River. The analysts involved believed this build up would be directed against the Romanian *3rd Army*, with the object of cutting the east-west railline to Stalingrad, thus forcing a German withdrawal from that city. No one believed it possible the

Soviets were strong enough to achieve any gains beyond cutting the railway.

From that point until the start of the actual Soviet counteroffensive around Stalingrad, neither Gehlen or his section's specialists had any further changes of mind. The intelligence officers at the German Army High Command and at Army Group B headquarters also shared their view. In fact, Gehlen refused to change his opinion about the primacy of the Soviet attack against Army Group Center until 9 December, some two weeks after *6th Army* (and some of *4th Panzer Army*) had in fact been pocketed.

In sum, then, it's wrong to say the Germans had no indications of the Soviet preparations for a counteroffensive around Stalingrad. But their mistaken conclusions about the location and intent of that attack present a clear picture of the huge gap that exists between merely gathering information and correctly analyzing it to determine an enemy's true intent.

— Ulrich Blennemann

Movers & Shakers...

Gen. Sherman's Report

During the latter third of the 19th century the authority of the "Commanding General of the United States Army" was more nominal than real. Under the prevailing system, the Secretary of War presided directly over the 10 Staff Bureaus: Ordinance, Medical, Adjutant General, etc. The virtually autonomous Staff Chiefs were vested with life tenure and didn't report to

the Commanding General. They wielded the real power and influence in the army, especially as Secretaries of War came and went. They managed a bloated, politicized and top-heavy bureaucracy that often usurped what should have been the Commanding General's prerogatives.

In theory, the Commanding General controlled the various geo-

graphic military divisions, departments, and line units, but the muddled communication lines invariably ended up going to the Bureau Chiefs and bypassing the Commanding General. The fact was the Commanding General of the US Army was a figurehead with no real responsibilities in time of peace.

The system protected civilian control of the Army and worked well enough when relations between the Secretary of War and the Commanding General were good. However, the concept of dual authority often became divisive. Gen. Winfield Scott, during his tenure as Commanding General, was so frustrated he moved Army headquarters from Washington to New York to avoid dealing with the Secretary, politicians and bureaucrats.

In 1869, Gen. William T. Sherman assumed the post of Commanding General, under President Ulysses S. Grant, with the understanding that "all orders from the President or Secretary of War to any portion of the army, line or staff, will be transmitted through the General of the Army."

But the incoming Secretary of War, John A. Rawlings, soon prevailed on Grant to revoke that agreement, pleading that too much power would otherwise rest with the general. Sherman's power was then limited to "orders and instructions relating to [active] military operations." Sherman, of course, remonstrated with his old friend Grant, but to no avail, and went away deeply hurt.

Since Rawlings voluntarily chose to forward orders through Sherman's headquarters, the two managed a working relationship. That changed when Rawlings died in office later that year and was succeeded by William W. Belknap, who was determined to exercise the full authority of his office at the expense of the general. Sherman threatened to move his headquarters to St. Louis in protest, and then tried to avoid the resultant public controversy by leaving for an extended tour of inspection through the west in 1871, followed by several months in Europe.

On his return nothing had changed and he complained: "I am at

a loss to know what is my true duty." Despite all the protests, Grant remained determined to uphold the principle of civilian control of the army, and in a final fit of pique Sherman issued his *1873 Annual Report*, certainly the shortest on record: "No part of the army is under my immediate control, and the existing Army regulations devolve on the Secretary of War the actual command of the military establishment, and all responsibility therefore, so that I for-

bear making any further recommendations or report."

Sherman's petulance still failed to resolve the matter, and in 1874 when he again requested to transfer Army headquarters to St. Louis, permission was quickly granted. He did not return to Washington from his self-imposed exile until 1876, after a disgraced Belknap had left office in the wake of one of the Grant Administration's many scandals.

— Hans Von Stockhausen

Historical Perspective...

Trench Warfare in World Wars I and II

World War I's western front ran from the southern Belgian coast to the Swiss border, and was completely defined by the opposing sides' trench systems. Similar but less extensive systems spanned the Italian, Balkan and eastern fronts.

An infantry battalion of some 1,000 men (paper strength) would usually be kept at the front about five days. During the night, the front lit up sporadically with illuminating "star shells," as both sides went about the wearying "No Man's Land" tasks of patrolling, repairing barbed wire, attempting to capture prisoners, etc.

Each man could expect a maximum of four hours sleep per day. A typical day was exhausting, but even more boring. Only shelling, mortaring and sniper fire enlivened the scene from time to time.

Days were usually divided into six periods of four hours each. Two "stand to" periods (not consecutive) involved each soldier in standing on the firing-step of the trench with webbing equipment, ammunition, rifle, bayonet and scabbard, entrenching tool, gas mask, steel helmet, and canteen. Two "working periods" (again, not consecutive) were devoted to digging, repairing trenches, duck boards, dugouts, and filling sandbags. In reality there was often little to do during both kinds of periods, but the soldiers still had

to be awake with their battle kit handy.

Each group's (usually a platoon) daily "rest period" required the men to sit up in a dugout, backs against the wall, again in battle order (but the backpack could be taken off). No sleeping was allowed, but dozing was common until the man chosen as sentry signaled the approach of an officer.

During their "sleep period," soldiers could curl up in their greatcoats, and perhaps one or two blankets, in a dugout and pray the relief of unconsciousness wasn't interrupted by a "general stand to." In any event, though, everyone was again required to stand to for an hour at dusk and again at dawn — the most likely times for attacks and trench raids. While at the front, the many enemy snipers soon taught officers to give up their distinctive service dress tunic (with "Sam Browne Belt") for the common private's uniform.

When relieved, a battalion would move back to a support or reserve trench, or even to a rear area completely out of the frontline system. Arriving after a long march in full pack, the reeling column would collapse in the billet provided. The period in the rest area would last one or two weeks and was taken up at least partly in training and work parties, after which the whole rotation routine was repeated.

Each battalion had a brass or pipe band that would play on the march back to the front. Upon approaching the rearward communications trenches, the bandsmen would exchange their musical instruments for medical stretchers and assume their combat roles as first aid men.

About half the men, and 80 percent of the casualties, in every army were in the infantry.

For the infantry of World War II, trench warfare was a different story and one not nearly so well publicized. That was perhaps because by the 1940s the infantry comprised only about 20 percent of each army, or about 15 percent of the major combatants' entire armed forces. But again, the infantry suffered about 80 percent of the total casualties.

The advent of the tank in the closing period of World War I had presaged the passing of classic trench warfare, at least as it had existed until then. The tank was immune to rifles, machineguns and grenades, and could cross trenches and cut through barbed wire with ease. Advances in artillery accuracy, greatly improved and more numerous mortars, and the growth of tactical airpower made extensive trench systems impractical and inefficient.

Experts in the new doctrine of mobility, including Heinz Guderian and Liddell-Hart, asserted large-scale infantry warfare would never again be necessary, and those troops would be used merely for "mopping up" after the tanks and bombers had inflicted the real defeat on the enemy. The defeat of the Allied armies on the continent in the spring of 1940, and the see-saw character of the desert campaigns, seemed to confirm the tank was indeed the key weapon in the new ground warfare.

However, tanks were soon countered by anti-tank trenches, anti-tank mines, anti-tank artillery, anti-tank infantry weapons, and anti-tank aircraft. Just as pendulums swing both ways, so too did World War II have both fluid and static periods. Thus after the fluid desert campaigns, static warfare in the Italian winter, and later in the flooded Netherlands, forced infantry

back into the trenches. But the entire concept of trench warfare had evolved in such a way that the earlier lines of continuous trenches, reinforced with dugouts, etc., had almost disappeared.

The common expression of World War II trench warfare became the "slit trench," which normally served as a temporary home for two soldiers. It was a hole about six feet deep, six feet long, and about two feet wide, with perhaps a small firing step. A battalion, now with paper strengths of about 800, would occupy an irregular series of slit trenches that had been dug to conform to the natural topography of an area, usually just behind a hill or slope.

In daytime along the front it was almost impossible to leave such trenches because of enemy snipers, which both sides employed in great numbers. There was almost nothing to do, but rain and mud often prevented lying down or even sitting. Neither was there much to be seen; everything in and around the trenches was kept well camouflaged. Only two pairs of eyes, alert with fear or half-closed in stupefaction, stared out from each slit trench. Occasionally artillery shells or mortar rounds would whine past overhead, perhaps crashing nearby, just to keep everyone's adrenaline flowing.

On the attack, a soldier might be called on to dig, or at least start, as many as 10 slit trenches in as many hours.

When periods of extended static warfare occurred (as in Italy during both the 1943-44 and 1944-45 winters), a routine quickly evolved in which a company (about 130 men on paper, but usually less than half that in fact) would dig in using a series of enlarged slit trenches, with planks laid over the rubble in the bottom of the holes. Partial roofs, made of boards, canvas, galvanized sheet metal, etc., covered with earth and camouflaged, completed the structures. (All the materials were usually gathered from destroyed houses, barns and other buildings.)

Two men could sleep on the boards in each slit trench, and were each usually allowed three blankets in addition to their greatcoats. At dawn, the men might awake to find themselves in up to two or three feet of ice cold water, and have to start the never-ending process of bailing with their helmets.

Each company was also responsible for a forward position, consisting of a standard slit trench wherein one of the two occupants was always on "stand to" — four hours on, four hours off.

Despite the misery of life in World War II slit trenches, they had one great advantage over the World War I system — they made much smaller targets. Hundreds of shells or mortars could fall in a fairly small area with almost no effect on overall unit cohesion.

— Ian R. Seymour

Mysteries Revealed...

The Stalingrad Pocket: Overall Numbers and Survivors

When Red Army units closed the ring around German *6th Army* and parts of *4th Panzer Army* on 23 November 1942, just four days after starting their drive (codenamed "Operation Uranus"), they knew they had trapped a lot of enemy soldiers. But exactly how many enemy troops were actually inside the pocket? The Soviet leadership first thought only some 91,000 Germans

and Romanians were encircled. By January, 1943, however, it had become clear that initial estimate was far too low.

To this day it's impossible to determine the exact count. German sources usually speak of between 200,000 and 380,000 soldiers inside the pocket; Soviet publications often cite a figure of 330,000. The discrepancies arise because not all of *6th*

Army's personnel were trapped. Moreover, some 1,100 members of the *Organisation Todt* construction firm (mostly Germans, but also including some foreigners, among them Belgians), 30 Italians manning a truck park, 800–900 Croats of *Infantry Regiment 369* (attached to the German *100th Jäger Division*), about 5,000 Romanians from various units, and perhaps as many as 50,000 "Hiwis" (short for *Hilfswillige*, or volunteer Soviets who preferred labor service with the German army to internment in POW camps), also manned "Fortress Stalingrad."

Recently all available data have again been analyzed, and the following figures are probably as close to the absolute truth as we will ever come. When the pocket was initially formed there were probably some 250,000 Axis personnel inside. Prior to the Germans' loss of the last airfield in the pocket on 23 January 1943, the *Luftwaffe* managed to fly out some 25,000 men, almost all of them wounded German soldiers. By 2 February, when the final surrender took place, some 60,000 German and 2,000 Romanian defenders had been killed. That means approximately 110,000 Germans and 3,000 Romanians became prisoners of war at the battle's end.

It is not known how many *Hiwis* died in the pocket, nor how many surrendered to the Red Army. However, because they were collaborators, we can be sure that any who survived to surrender were executed as traitors within a short time.

Soviet sources speak of only 91,000 prisoners. That figure probably can't be given too much credence, though, because it's always cited along with another statistic claiming the capture of 1,666 German tanks in the pocket — a figure that is way too high.

At any rate, the Axis prisoners were marched to camps in Siberia while being given only minimum rations and virtually no medical care. It's estimated some 17,000 perished on the way east. By the late spring of 1943, only some 27,000 to 33,000 were still alive in the camps, and by January 1944 another 15,000 had died. When the last were released

from captivity in 1955, a final tally of only 5,000 survivors of the Stalingrad pocket returned home.

Interestingly, German officers taken prisoner in the pocket had a far better survival rate than the NCOs and enlisted men. Of all the officers captured (5,689), 49.2 percent (2,800) lived to return to Germany. In contrast, only 1.3 percent of the lower ranks survived the bat-

tle and captivity. This huge difference was due to the fact the officers were generally in better physical condition than the common soldiers at the time of the surrender, were not forced to labor while in captivity, and a few hundred of the most high-ranking were given privileged treatment by their communist captors.

— Ulrich Blennemann

Technology Update...

Send in the Drones

When the Iraqis reported they had shot down 55 Coalition aircraft during the first night of the Persian Gulf War, their claim was dismissed by most as yet another false propaganda boast. The Iraqis may have been more honest than they were given credit for, however. They had been made to think they had been shooting at Coalition combat aircraft, but had in fact been engaging a collection of powered target drones and unpowered decoy gliders.

The plan for the air campaign for what eventually became known as Operation Desert Storm existed in various preliminary forms as early as 1989 and 1990, and they were fleshed out shortly after the actual Iraqi invasion of Kuwait in August 1990. The fundamental principle of the plans was that a gradually escalating air war, as had occurred in Vietnam, would not work against Iraq. Instead, the new thinking called for definitive and heavy air attacks from the start.

The strikes planned for the areas around Baghdad faced considerable challenges. The air defense there was, on paper at least, one of the most formidable in the world. Original strike plans called for attacks to be made by a variety of aircraft, most of which were not "stealthy" and would be easily detected by an alerted Iraqi air defense system. But one advantage those aircraft were to have had in undertaking their missions lay in the fact the Iraqis were not aware of the nature of the opening strikes, and

would not know the Coalition was placing emphasis on targets in their country, in and around Baghdad in particular.

But that hoped-for advantage was lost in mid-September 1991, when Air Force Chief of Staff Gen. Michael Dugan disclosed the details of the Coalition air strategy. In an interview with reporters from *Aviation Week and Space Technology*, *The Washington Post*, and *The Los Angeles Times*, he stated: "If push comes to shove, the cutting edge would be in downtown Baghdad."

Dugan was relieved by Secretary of Defense Cheney shortly thereafter for revealing that information in the interview, but the damage had been done. The Iraqis were alerted that Coalition aircraft would be going after targets in and around Baghdad.

Strategists reviewed the plans to estimate how much had been thrown off by Dugan's remarks. They concluded the overall approach was still viable, but needed some modifications. The first of these was to change the composition of the forces assigned to strike Baghdad itself. Instead of a force composed of cruise missiles, F-117 Stealth Fighters, and various conventional non-stealth attack and fighter planes, the initial attack was changed to include only F-117s and cruise missiles.

In addition, planners were able to utilize Dugan's slip to the advantage of Coalition pilots. Though non-stealth aircraft were no longer to be used for the assault on Baghdad

itself, the Iraqis were deceived into thinking they were. Plans for using unmanned decoy gliders and powered drones were expanded to give the Iraqi air defense personnel their expected targets.

This accomplished two things. First, it saturated the defenses with more targets than they could handle and took some of the heat off the real strike craft. Second, and more importantly, the decoys goaded the Iraqis, expecting real raids from the directions where the drones came, into activating their air defense radars. Once activated, those radars were quickly pinpointed by Wild Weasel aircraft and destroyed with High-speed Anti-Radiation Missiles (HARMs).

The Iraqis shot numerous Surface-to-Air Missiles (SAMs) at the decoys, and their count of Coalition aircraft claimed as destroyed on the

first night of the war was undoubtedly thrown off by decoys shot down, or which glided to the ground and off Iraqi radar screens. The Iraqis may have been reporting honestly but inaccurately when they claimed 55 Coalition planes had been shot down.

The Coalition used two types of decoys during the opening days of the conflict — further use of decoys in the war were canceled after the Iraqi air defenses were destroyed so quickly. The majority of the decoys used were US Navy and Marine ADM-141 Tactical Air Launched Decoys (TALDs), which were derived from Israeli Samson decoys.

The TALDs are unpowered gliders, carried by piloted aircraft such as the A-6, A-7, F-18 and S-3. They can be programmed to maintain designated air speeds and perform maneuvers, both characteristics that

make them difficult to identify as decoys to radar operators. Range varies depending on selected air speed and launch altitude, but it can be as far as 72 miles. As many as eight decoys can be carried by each piloted aircraft.

The US Air Force also used decoys in its opening strikes. They consisted of 38 BQM-74C Chukar target drones, which were ground-launched from Saudi Arabia. Because the BQM-74Cs are powered, they are more able to maneuver like real aircraft. This feature is augmented by the fact the drones are guided by remote control, and are never autonomous. Like their US Navy and Marine counterparts, the BQM-74Cs tricked the Iraqis into activating their air defense radars, which were then suppressed by Wild Weasels.

— Jim Cunningham

Movers & Shakers...

Gen. McNair and the US Army Ground Force in World War II

The only reference usually found concerning Lt. Gen. Leslie J. McNair in World War II combat histories is the mention of his accidental death during the massive pre-Cobra aerial bombardment in Normandy. In actuality, though, his contributions to the structure of the US Army in World War II were so great he can rightly be called the father of that force. His concepts of standardized, offensively oriented, combat divisions formed the unshakeable foundation of an army that by 1945 attained a quality second to none. His greatest misfortune was that he did not live to see the culmination of his efforts, the final defeat of Hitler's Germany.

An artillery officer who had seen action during the Great War in 1918, McNair was widely hailed during the 1930s as the Army's premier expert in tactical organization. With an uncanny ability to devote his attention to the detailed makeup of combat organizations, and the tena-

city to fight for what he thought was right, he was suited to the strenuous tasks that lay ahead.

Unlike World War I, the most significant American concern in the Second World War was how to maintain several active theaters at the same time. "Deployability" became the critical term in the Army's program to build units that could be shipped overseas with minimal staff work. A corollary was that all American combat divisions be organized in such a way as to allow them to be deployed and re-deployed to any theater(s), on short notice, and with only minimum re-adaptation time.

Toward those ends, McNair, as Chief of Army Ground Forces, worked to ensure that divisions were given only what they would need at all times in their conduct of offensive operations. Non-divisional tank, tank destroyer, anti-aircraft, and service battalions were to be attached as situations dictated.

The goal was to create a 100-division Army, but before that was reached, losses in Italy forced a review of existing structures. Already faced with a manpower shortage in 1943, the US Chief of the General Staff, Gen. George C. Marshall, charged McNair with reducing the rosters of combat divisions by 15 percent, while leaving their offensive combat potential undiminished.

After broadly accusing theater commanders of "empire building" (which he defined as the tendency to encumber units with "comforts and conveniences, machines and inventions, technicians and experts, specialized services and complex agencies of control"), McNair set to his task with relish. He focused primarily on defensive combat units, such as the regimental mine-laying platoons, the divisional defense platoons (for guarding the command post), and on non-combat personnel.

When field commanders began complaining at the reductions, McNair replied that their remaining people could and should work harder than formerly, more preventive maintenance should be employed, and oral orders should be substituted for written.

Earlier, during a visit to North Africa in 1943, McNair had already noted some commanders were too defensive-minded. They spent too much time in their command posts, which were located far to the rear, and were too heavily guarded by personnel desperately needed up front.

"If commanders were overly concerned about their own safety," he said sarcastically, "they could pull an infantry battalion off the line to protect them."

In the end, he succeeded. The resulting reductions in divisional manpower had no real impact on fighting strength. Indeed, the reorganization of armored divisions (units McNair had seen as prime targets for his "defatting" program), produced what were arguably the best mechanized formations of the war. Because of that work, however, some of the advocates of more purely armored warfare (like George S. Patton) developed an adversarial relationship with McNair. Actually, though McNair rightly believed the tank purists exaggerated their machines' contributions to the war effort, he was a firm supporter of armor's role in pursuit and exploitation operations.

Unfortunately, because of McNair's insistence on retaining an unrealistic tank destroyer doctrine, US Sherman tankers later experienced an acute inferiority in their firepower relative to those of their German opponents. McNair didn't believe the best way to kill a tank was with another tank. For that reason, American tank gun evolution lagged behind that of the Germans, when in fact the highly advanced M26 Pershing tank could have been deployed in 1944.

In fairness, US self-propelled tank destroyers proved effective against attacking German tanks, but their lack of armor and overhead protection limited their offensive potential. With 20-20 hindsight, it is easy to criticize US World War II tank destroyer doctrine, but it should be remembered that doctrine was largely based on European experience. It took the Soviets two years to come up with a viable tank doctrine. Comparatively, the Amer-

ican tank destroyer experience was not bad at all.

McNair also originated the famous (or infamous) concept of "pooling." It was really an attempt to master the efficient deployment of an ever increasing variety of specialized units and equipment. The idea was to provide flexibility by creating an Army made up of standard components. McNair knew that wild day-to-day fluctuations in combat conditions — changing frontages, mobility, enemy strength, etc. — could result in situations that no standard organization could encompass. Specialized battalions, therefore, were to be maintained outside the divisions and attached as needed.

Though the idea at first sparked little general debate, in practice, many field commanders raised vehement objections to it when it came to the attachment of specific tank, tank destroyer, and anti-aircraft units. For instance, in a letter to Gen. Marshall in 1943, Gen. Devers, then Chief of the Armored Force (and later head of the *6th Army Group*), questioned the extent to which the pooling concept had been carried.

He favored the direct incorporation of those extra battalions into each division, and claimed pooling made for "poor combined [arms] training and poor battlefield teamwork....Economy of force and unity of command go together. You get little of either if you get a lot of attached units at the last minute. Team play comes only with practice."

Devers' criticism proved prescient, since the Army in Europe evolved in the direction of permanent attachments by 1944. At the time, though,

McNair accused Devers and his supporters of being "dispersionists," and "advocates of the dribble," and refused to budge. Such was McNair's clout by that time, however, that the War Department officially upheld his judgment.

Still, as the war continued and American combat experience grew, McNair showed a tendency to defer to the judgment of the commanders in the field. In particular, the attachment of tank battalions to infantry divisions became standard practice, particularly in Normandy where the hedgerow terrain demanded close tank-infantry cooperation. Fortunately, McNair's October 1943 reorganization of the armored divisions had freed just about enough tank battalions for every infantry division in the European Theater of Operations to get one.

McNair also gave in to the line officers who maintained better teamwork and the diminishing German tank threat warranted the dispersion of tank destroyers to support the infantry as assault guns, despite the fact those vehicles weren't designed for that role.

In the end, Gen. McNair should be remembered for his many successes; his failures were relatively few in number. To the upper echelons of American line officers, who knew him well and appreciated the scope of his contributions, McNair's death came as a severe blow. To the casual reader of military history, his accomplishments are transparent because he was a staff officer, and glory does not cling to able administrators.

— John Desch

Looking Forward . . .

Trenches Ahead?

The key factor that turned World War I into a static carnage was the great technological improvements in the range and firepower of heavy weaponry. Artillery and machine-guns gave the firepower factor a quantum push ahead of mobility. Simply put, one could not reach a

well-prepared enemy before being killed. But with the advent of airpower and tanks, mobility returned; attacking formations were able to close with the enemy before being destroyed by his firepower.

With only minor fluctuations due to the specifics of terrain in a given

theater, political constraints, etc., this superiority of mobility over firepower has been maintained to the present time. But artillery is again undergoing a quantum move forward due to the introduction of "smart" ammunition, liquid propellants, and (soon) electromagnetic guns — even "steerable" munitions for anti-aircraft defenses are just around the technological corner. Further, sensors deployed in space can detect almost any impending attack.

A new trend is clearly emerging — it is again becoming harder to reach the enemy's main line of defense, and the result may be a new stalemate. This time, however, with both sides' maneuver speeds enhanced by ground and air vehicles, we may well expect to see future no man's lands varying from 20 to 30 kilometers in width. In such "high threat" environments, firepower may ascend over maneuver to the point where an attack's first detection by the enemy will equal its destruction. Not all experts today accept such scenarios, but neither did anyone foresee Passchendaele in 1900.

One possible way to overcome the new firepower may be to enhance infantry mobility with exoskeletons and jet packs, while increasing their offensive deadliness with cybernetically directed weapons. A related solution may be the creation of all-robotic assault units to make up the first wave of any attacks, opening the advance with massive suppressive fires. The trouble is, all these mobility solutions are still pretty much in the domain of researchers and science fiction writers, while the firepower enhancers are appearing now.

A third solution, broadly available now, is to overturn defensive firepower through the massive use of "dirty" weapons, such as chemical warfare and tactical nuclear strikes. After all, gas attacks, due to lack of any other readily available solution, became commonplace during World War I. Depending on the belligerents involved, however, such weapons' use may carry the risk of broadly escalating the conflict to levels not desired by either side.

A "poor man's" solution may involve nothing more revolutionary

than forcing through attacks with the old western front method of concentrating overwhelming mass in small sectors. Of course, the tremendous casualty figures from that earlier war would only be magnified in any new static situation in a future war.

A fifth possible solution might lie in reverting to an enhanced version of World War I infiltration tactics. Though this certainly could work, casualties in such units would be much higher, proportionately, than they were in World War I, due to smart munitions. Even after overcoming that, such units could be used only to lead small-scale attacks, with no possibilities for successful exploitation.

Increasing the amount or efficiency of armor on combat vehicles has been proposed as a sixth solution. Armor strong enough to defeat the full array of defensive weapons now

becoming available would also be so heavy as to greatly diminish the utility of the vehicles protected. Such combat vehicles would be too heavy or large, for instance, to cross most bridges, pass through tunnels, or even navigate urban areas. No armor, no matter how thick or strong, can be expected to provide complete protection from the electromagnetic guns that will begin coming on line in another decade or so.

A final solution being worked on involves increasing the potential of electronic warfare to the point where the computerized elements of defensive systems can be reliably overthrown. The trouble is, such techniques can be used both ways, and in actuality may merely raise the status of both sides' electronic warfare units to top priority targets at the start of any offensive.

— Paulo Vicente

Elite Beat...

The German Army Today

In point of fact, there has been no real "unification" of the existing West German army (the *Bundeswehr*) with the East German army, the National People's Army (NPA, or *National Volks Armee*). The organizations were based on two military cultures so totally different from each other there really was no common ground on which to unify.

On Reunification Day, 3 October 1990, some 45,000 East German soldiers changed their eastern uniforms for the *Bundeswehr* fieldgray. Another 1,600 civilian administrative personnel were absorbed into the west's bureaucracy.

One-third of the 32,000 NPA officers accepted the opportunity presented to them by Bonn to retire with generous pensions. All those with the rank of full colonel and above were dismissed. Fully 6,132 former NPA officers were given a chance to serve in the new all-German *Bundeswehr*. They were taken in on probationary two-year terms, during which they were required to undergo several retraining and reorienta-

tion courses. Further, they had to accept demotions of two or three ranks. That wasn't meant as any kind of punishment, but was simply a reflection of the fact the rank structures of the two armies had been different. For example, the average age, experience and competence of a typical NPA lieutenant-colonel was found to be generally comparable to that of *Bundeswehr* captains.

It was also found that the NPA frequently used officers to fill posts commonly run by NCOs in western armies. Gen. Werner von Scheven, the western officer put in charge of integrating the easterners into the new all-German army as its *IV Corps*, mentioned one example to this writer: company mess kitchens in the east were commonly run by captains, a job usually taken by master sergeants in the west.

Over all, the NPA was found to have three times more officers per private soldier than the *Bundeswehr*. At the same time, however, there was such a lack of qualified eastern NCOs that normal *Bundeswehr* orga-

nizational patterns couldn't be filled when it came time for the amalgamation.

This was particularly disturbing and surprising to the *Bundeswehr* command, since all modern German armies have relied heavily on competent, leadership-oriented, non-commissioned officers. It was precisely that characteristic that allowed the German armies of the two world wars to survive and fight so long under arduous conditions. The relatively few NCOs the NPA did have lacked almost all leadership qualities when measured by western standards.

The eastern NCO situation was actually only one immediately apparent symptom of the total departure from traditional German military methods the Soviets forced on their satellite. Such traditions were deemed "fascist" by the Red Army high command.

Another Soviet-style ingredient in the NPA came in the form of close observation by the *Staatssicherheitsdienst* (State Security Service, in other words the "secret police," or *Stasi*). There was in fact a rigid formula for the number of *Stasi* informers per rank, unit, branch, and the estimated importance of the various unit-mission in time of war. For instance, the frontline border units had one *Stasi* informer for every five soldiers, while infantry farther to the east rated only one for every twenty.

The NPA soldiers and officers were the products of a military system wherein the expression of personal opinions and initiative were not only undesired, but potentially dangerous to their authors. Fulfillment of the unit's "plan" was the key element in career success. Translated into direct military terms, fulfillment meant units demonstrating the ability to get all their troops fully equipped, out of the barracks, and into the designated assembly areas in the shortest possible time. The NPA was always kept at a high state of alert, and such "alert movements" were practiced over and over, often to the exclusion of almost everything else.

An interesting characteristic of this plan-fulfillment mentality was the paranoid sense of secrecy that went with it. Everyone was given

just enough information about the overall scheme to be able to carry out his own limited part in it. Thus, even if some officer tried to react with initiative to an unexpected situation, he would have been hamstrung by having no idea of the intentions of the command echelons above and parallel to him.

Gen. von Scheven summed up what was to have been the *Bundeswehr's* approach to dealing with the NPA had war ever come: "The task of our intelligence was to analyze their system of command and decision making...With that information at hand, we could create unexpected situations on the battlefield. The inability of their officers to react on their own, combined with the overburdening of their higher command levels — who alone had the authority to issue substantive orders — would have caused their command system to at least partially collapse, effectively leaving their units in the field without orders."

The NPA membership was told in its official propaganda that the "western imperialists" were ready to attack them at any moment — this

led to a great deal of surprise among the NPA officer corps when they learned the relatively low state of alert at which NATO forces were usually kept. Since the reunification, a great deal of evidence has come to light about the actual Soviet plans for offensive action in Europe.

Despite Red Army efforts to destroy all such documents, the office safes of many NPA units still contained detailed planning maps at the time of the change over. Many of them detailed planned operations extending as far as Belgium, the Netherlands and northern France. Further, the NPA's communications services were trained and equipped to establish radio nets over great distances, and the capacity of their transport units has been judged sufficient to have carried supplies deep into western Europe. Even road signs had been made and stored in quantities large enough to guide traffic flows well beyond the Rhine River.

— Dr. Thomas Scheben

[Ed's Note: Prof. Scheben is a German citizen who regularly appears in newspapers and on television there as an expert commentator on military affairs.]

Technology Backdate...

Television-Guided Drones vs. the Japanese in WWII

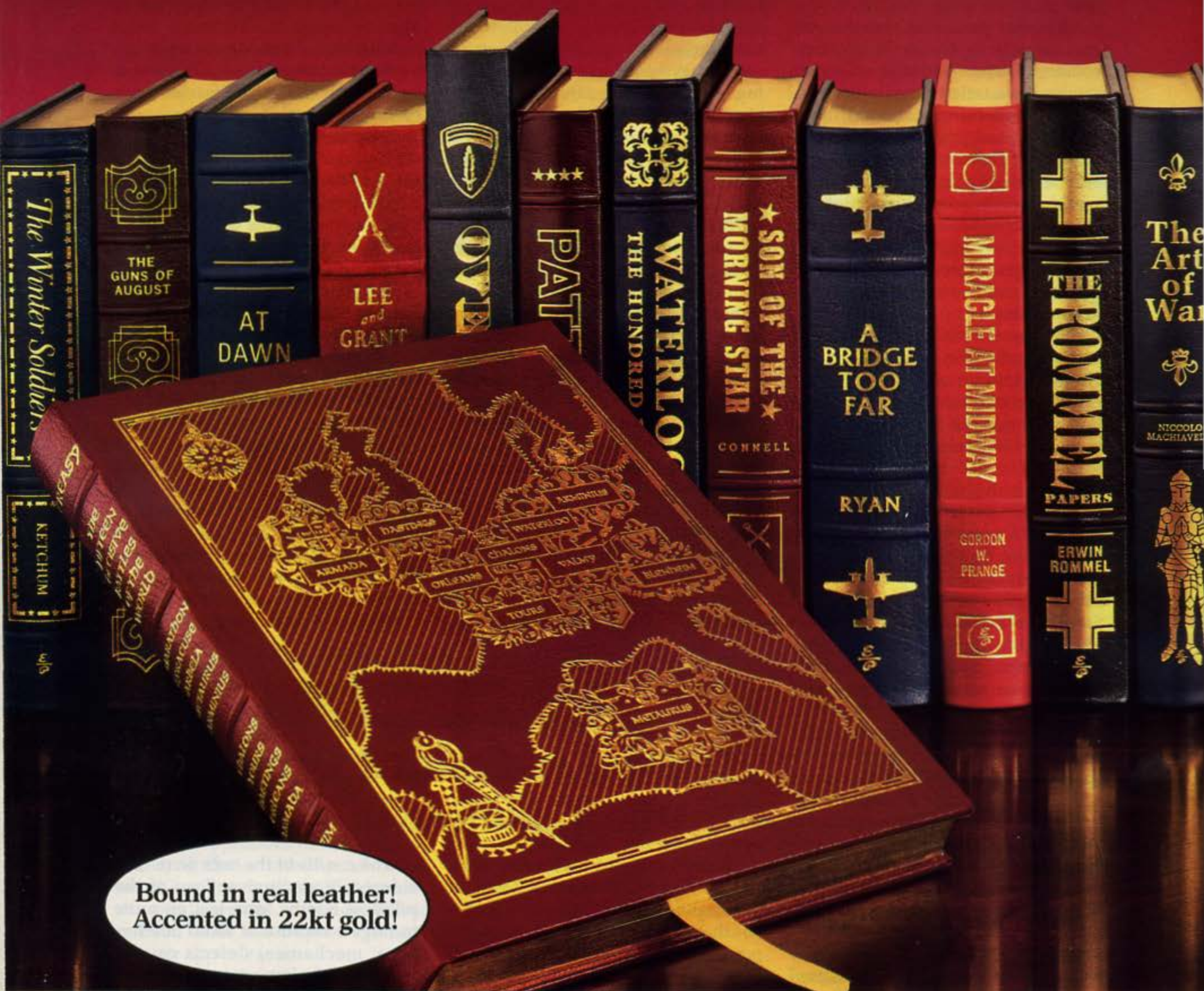
In September and October 1944, the US Navy carried out a series of tests against Japanese targets in the South Pacific using a new air weapon: a drone bomb. The drones, specially built planes capable of carrying a 2,000 lb. bomb, were radio-controlled from torpedo bombers of a special test unit. Synchronized television screens in the drone and control plane enabled the controllers to view what was ahead of the drones and to crash them against specific targets. After test attacks on a ship hulk beached at Guadalcanal, the unit moved to bases on the islands of Stirling (south of Bougainville in the Treasury Islands) and Green (east of Rabaul and north of Bougainville), and made 47 sorties.

The results of the tests were considered inconclusive. Two of the pilotless bombs were lost en route to targets because of radio interference; mechanical defects caused five to crash; Japanese anti-aircraft fire shot down three; and five had television failures and could not be used to locate a target. Of those drones that did attack targets, 18 hit their objectives and 11 were recorded as misses or near misses.

The Navy concluded that while there was a future for such weapons, they needed more development work and better aircraft for the drones. The test unit was decommissioned after its last strike mission on 26 October 1944.

— A. Vannoy

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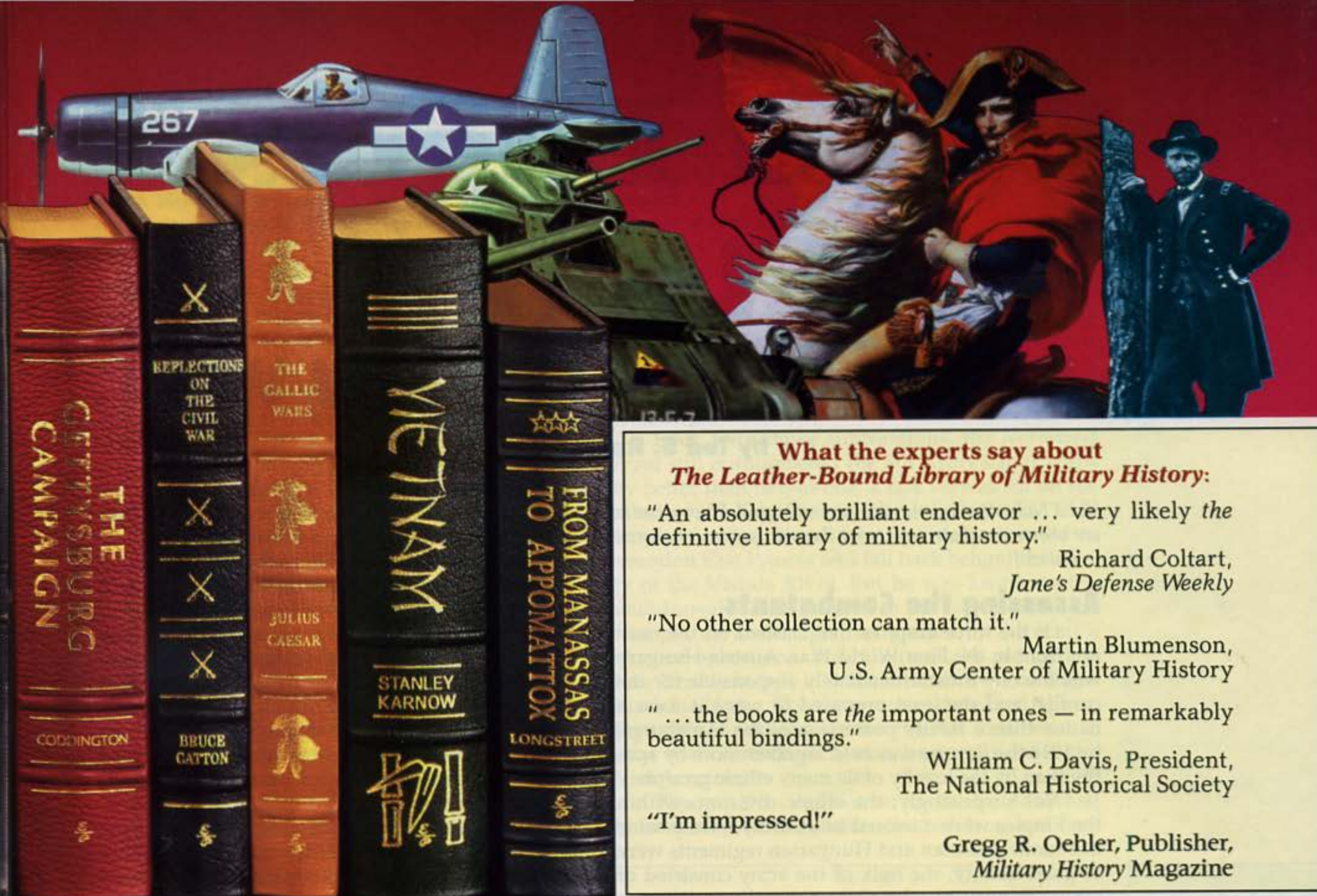
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When Eagles Fight

The Eastern Front in World War I

by Ted S. Raicer

[Ed's Note: throughout this piece, Central Powers units are shown in plain text, and Russian units are shown in italics.]

Assessing the Combatants

Of the three empires that clashed on the eastern front in the First World War, Austria-Hungary was the one most immediately responsible for the conflict and the least prepared to wage it. Less a nation than a family possession of the Hapsburgs, by 1914 the Empire was held together more by apathy than by the loyalty of its many ethnic groups.

Not surprisingly, the ethnic divisions within the Empire were mirrored in its army. While some Germanic-Austrian and Hungarian regiments were of good quality, the bulk of the army consisted of ethnic minorities who were generally indifferent or, in the case of the Czechs, hostile to the Hapsburg fortunes. Only a small group of professional junior officers held the army together, and few of them survived the opening battles of the war.

In August 1914, the Austro-Hungarians mobilized a half-million men in 49 divisions. By September that number rose to 1.1 million, backed by a poorly-trained reserve of some 2 million. Vienna's defense budget that year was only £36-million, compared with £88-million for Russia and £110-million for Germany.

The Austro-Hungarian army was plagued by shortages and outdated equipment. Though the famous Skoda Works provided both Central Powers with excellent heavy artillery, the army was short of field guns (with fewer than 2,000 compared to Russia's 3,000), and Austria-Hungary's industrial base proved so limited that only 250 of the 1,000 guns lost in the war's first six months were ever replaced. Corruption and inefficiency were rampant in the supply services.

The Austro-Hungarian chief-of-staff, Count Conrad von Hotzendorff, remained resolutely oblivious to these shortcomings. Impatient and aggressive, he had a brilliant strategic imagination, but it was divorced from the actual capabilities of

the army he led. The result was a series of "perfect plans," all of which inevitably miscarried.

In contrast to her ally, Germany entered the war with the best-equipped army on the continent. Each German active division contained 12 batteries of light field pieces (twice as many as a Russian division), backed by six batteries of light howitzers. Reserve divisions had fewer cannon, but an equal number (24) of heavy machineguns. Each active corps had an attached battalion of heavy howitzers (150mm). This impressive firepower was supported by an efficient and detailed system of logistics, based on Germany's highly developed rail network.

German advantages were not confined to the material sphere. Her soldiers had undergone tougher and more realistic training than those in any other armies, while her junior officers had a better (if still deficient) grasp of the tactical problems posed by modern weaponry. At higher levels, the general staff system produced officers skilled in operations, though sometimes lacking strategic vision.

Initially Germany called up 1.8 million men, which increased to 4 million after full mobilization. But with the bulk of those forces committed to the famous Schlieffen Plan in the west, only one army, the 8th, remained to oppose the Russians. While the Kaiser comforted himself with false reports indicating the Czar's armies planned a defensive strategy, the 8th Army's commander, Gen. Maximilian von Prittwitz, nervously awaited the first blow of the fabled Russian "steamroller."

That "steamroller," the Russian army, was the great enigma of 1914. Badly handled 10 years earlier in the Russo-Japanese War, it appeared to have made a remarkable recovery. To foreign observers, its vast pool of manpower inspired visions of an inexorable advance that would crush its opposition. Russia mobilized 5.3 million men, forming 114 infantry divisions (though it would be October before all 98 infantry divisions slated for use on her western front were deployed).

Despite its awesome size, the Czarist army was ill-prepared for the challenges of modern total

war. One-in-ten of its soldiers came from the poorly trained Home Guard (*Opolchenia*), and were armed with single-shot rifles 40 years out of date. The entire army was short a million modern rifles and a billion cartridges. There were not enough uniforms or boots, and there were only two motorized ambulances in all of Russia.

The Russians had 60 batteries of heavy artillery; the Germans had 381. In August 1914, Russian depots held 7 million shells, but in all of that year only 650,000 more were delivered. Soon many batteries were limited to firing no more than four rounds a day. In theory those shortages could have been alleviated by the hundreds of guns and millions of shells kept in the system of forts that guarded western Russia. But lack of both transport and a sound strategic doctrine prevented any transfers to the field armies.

The gravest Russian deficiencies were moral rather than physical. The government of Nicholas II was a tangle of cowardice, selfish blindness, self-serving craftiness, and stupidity. Though the nominal Russian commander (and uncle of the Czar), Grand Duke Nicholas, was competent, too often real command was entrusted to men talented only in flattering their weak-willed monarch.

Many officers, virtually all aristocrats, openly displayed contempt for the peasant conscripts they led. One anecdote from the period of the Great Retreat in 1915 tells of a Russian general who met a wounded soldier whose uniform had been worn to shreds. Demanding, "Villain, where are your boots?!" the officer punched the man in the face, then drove off in his staff car, leaving him to struggle on in his bare feet. Such mistreatment eventually curdled the natural patriotism of the ordinary "Ivan." In time resentment would turn to resistance — and revolution.

Opening Moves — North

On 15 August 1914, three Russian infantry corps belonging to Gen. Pavel Rennenkampf's *1st Army* crossed the border with Germany into East Prussia. In prewar talks with France, *Stavka* (the Russian supreme headquarters) had committed itself to an immediate offensive against Germany. With East Prussia overhanging the salient of Russian Poland like a balcony, the Russians planned a two-pronged drive by Gen. Iakov Zhilinskii's *Northwest Front (Army Group)*. While Rennenkampf's *1st Army* pushed west from Kovno, Gen. Alexander Samsonov's *2nd Army* would advance north from Warsaw, trapping the German 8th Army between them.

Since this plan was as obvious as it was ambitious, its chances of success depended on close coordination between the two arms of the Russian pincer. But here the normal problems involved in directing forces separated both by distance and the enemy's central position were compounded by the two commander's personal animosities. Samsonov

and Rennenkampf were old and bitter rivals, while the latter wasn't even on speaking terms with Zhilinskii. Under such circumstances, there was little real chance of the *1st* and *2nd Armies* acting in concert.

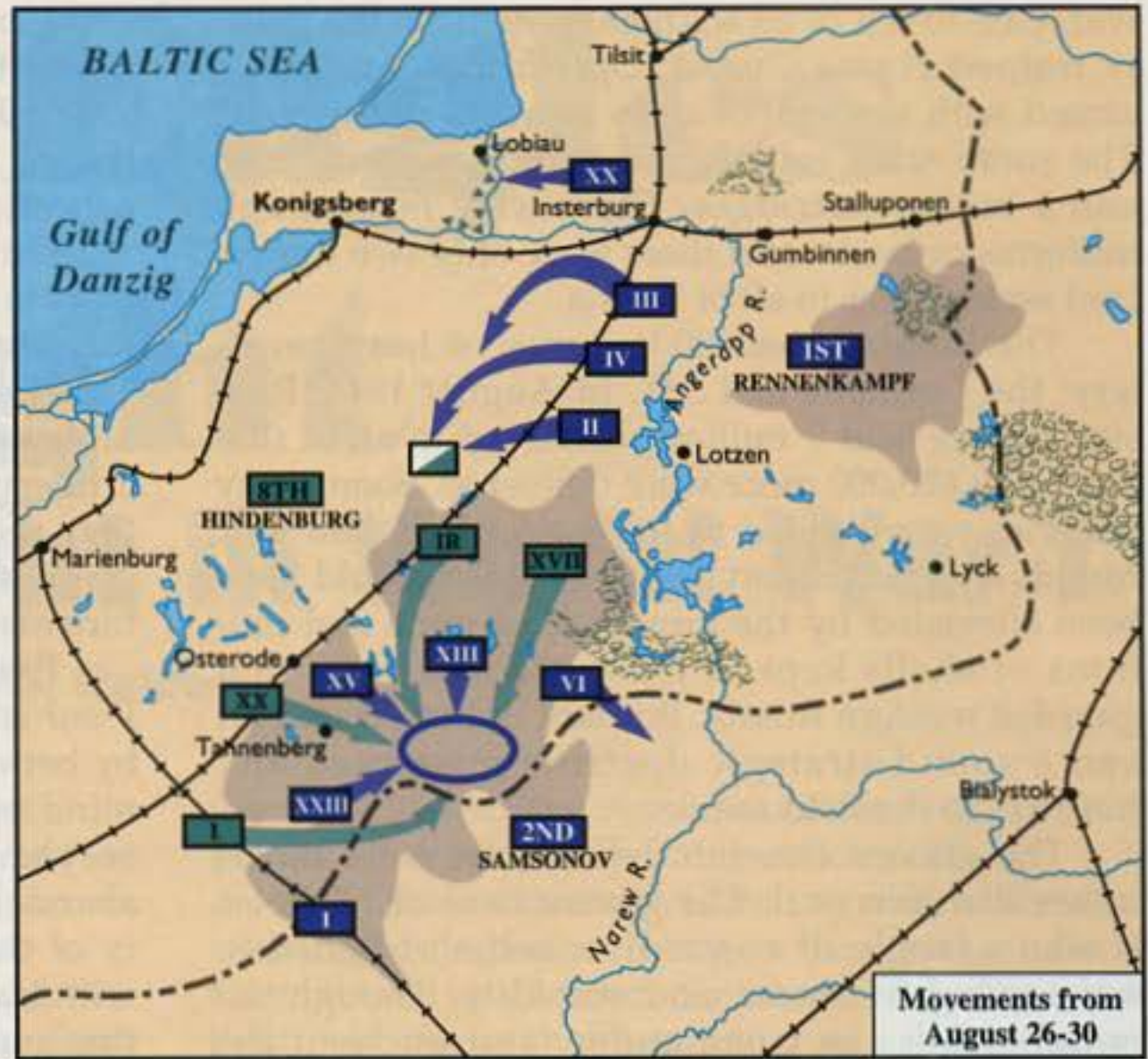
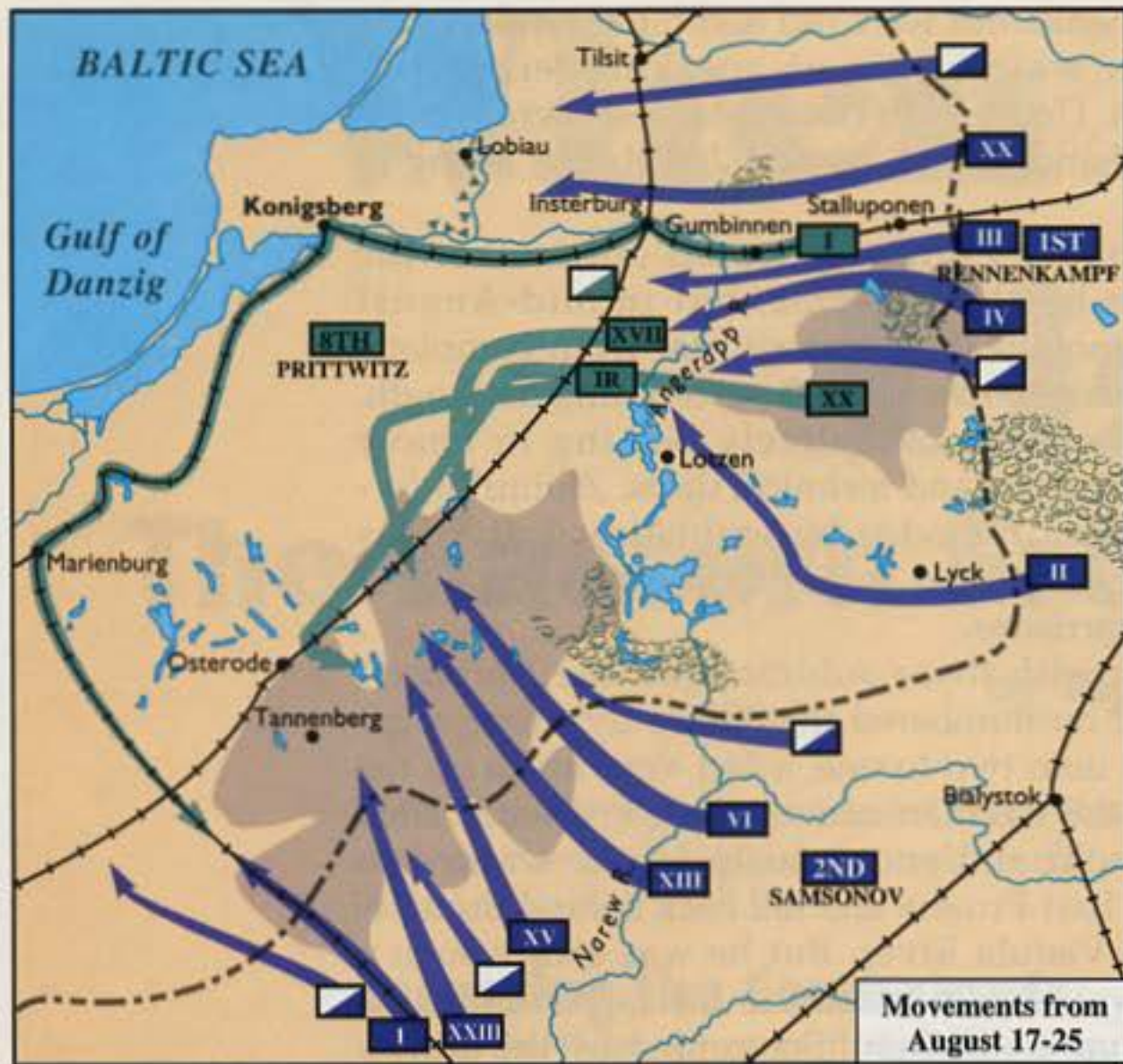
On paper Zhilinskii would outnumber the Germans by three-to-one, but in mid-August Russian mobilization was still far from complete. The *Northwest Front* was 30 percent understrength, and was almost completely lacking in heavy artillery, supply, and technical units. Zhilinskii further reduced the odds by withholding divisions originally assigned to his field armies to act as fortress garrisons.

Even with those subtractions, the *Northwest Front* still outnumbered the 8th Army's four corps by better than two-to-one, a fact very much on the mind of the German commander, Prittwitz. Then 66-years-old and enormously fat, he wanted to abandon East Prussia and fall back behind the safety of the Vistula River. But he was aware such a withdrawal would be fatal to his career unless he first put up a stiff fight. So, guided by the army's chief-of-operations, Max Hoffman, he planned to lure Rennenkampf into an ambush west of Gumbinnen. If the Russians were defeated there, Prittwitz would then move the 8th southwest to deal with Samsonov. If not, he would order the Vistula retreat.

The trap the Germans set for the *1st Army* had to be sprung quickly, before the *2nd Army* had time



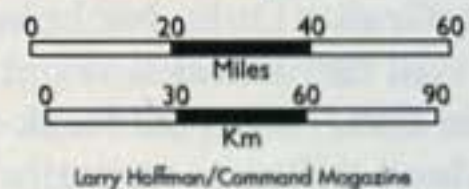
Heavy German guns answering the fire of the Russians near Gumbinnen.



	German	Russian
Armies	8TH	2ND
Corps	I	I
Cav. Div.	XXIII	I

THE BATTLE OF TANNENBERG

August 1914



Larry Hoffman/Command Magazine

to move against 8th Army's deep flank. Unfortunately for Prittwitz, Hoffmann's careful calculations were upset by an act of insubordination. On 17 August, Gen. Hermann von François, commanding I Corps, made an unauthorized attack on one of Rennenkampf's divisions at Stallupönen, 25 miles east of Gumbinnen. Though François won a minor victory, he cost 8th Army the element of surprise. Instead of blundering into the prepared German positions along the River Angerapp, the alerted Rennenkampf halted cautiously just east of Gumbinnen.

Goaded by the aggressive François, Prittwitz attacked the 1st Army on 20 August. The resultant Battle of Gumbinnen was a defeat for the Germans — though I Corps did well on the left, Gen. August von Mackensen's XVII Corps foundered against the strong Russian center.

News arrived that Samsonov was advancing on a broad front some 60 miles to the southwest, screened only by the German XX Corps. Prittwitz had had enough. He called OHL (Oberst Heeresleitung — Supreme Army Headquarters) and told Gen. Helmuth von Moltke, the chief of the general staff, East Prussia had to be abandoned.

Von Moltke, another old and fat general with weak nerves, was deeply shaken. Prittwitz, he decided, was a broken man and must go. But would a mere change of command be enough? The war was going well on the western front, but what good would it do to capture Paris if the Russians were in Berlin? Taking the counsel of his fears, von Moltke ordered the transfer of two corps and a cav-

alry division from the fighting in Belgium to East Prussia. Thus the Czar's armies made their contribution to the eventual Allied victory on the Marne River.

Meanwhile, Hoffmann had convinced Prittwitz's chief of staff the planned retreat was actually impossible. Samsonov was closer to the Vistula than was the 8th Army, which would thus have to withdraw across the enemy's line of advance. Either 8th Army had to resume its attempt to destroy Rennenkampf, or turn and attack Samsonov.

Returning from his professionally fatal phone call, Prittwitz refused to renew the fight at Gumbinnen, but did accept Hoffmann's new plan to strike the 2nd Army. The I Corps would be moved by rail to support the XX Corps in attacking Samsonov's left, while the 8th Army's remaining two corps (XVII and I Reserve) disengaged from Rennenkampf and marched southwest to stop the advance of Samsonov's right. Incredibly, Prittwitz failed to inform von Moltke of this change in plans.

Enter H-L

On 22 August, Prittwitz received the news he had been replaced by Gen. Paul von Hindenburg, a recalled veteran of the Franco-Prussian War of 1870. Hindenburg's appointment had come as a necessary afterthought; the man von Moltke actually counted on to save the situation was the 8th Army's new chief-of-staff, Erich Ludendorff.

Ludendorff had become a hero earlier that month at Liege, Belgium. Arrogant, talented and

neurotic, Ludendorff was the brains behind the imposing figure of Hindenburg (the soon-to-be-famous "H-L" combination). Hoffmann, who was perhaps the ablest strategist of the war on either side, remained H-L's chief-of-operations.

Told by von Moltke that 8th Army was in full flight, H-L arrived at that headquarters on 23 August to find Hoffmann redeploying units to attack Samsonov. This clearly had possibilities, and Ludendorff was quick to approve (though still without informing von Moltke of the army's actual condition). Three days later, the Germans were in position to attack the 2nd Army on both its flanks.

Though the 1st Army had remained inert since its victory at Gumbinnen, only a single German cavalry division now stood in the way of its further advance. To reassure H-L, Hoffmann produced wireless intercepts that revealed Rennenkampf was moving northwest, to invest the fortress-city of Königsberg, instead of going southwest to link with Samsonov.

The Battle of Tannenberg began on 26 August, when the German XVII and IR Corps struck Samsonov's right flank, routing his VI Corps. The next day François defeated the Russian I Corps on the other flank. Samsonov's two center corps, the XIII and XV, were suddenly in danger of being encircled. But Samsonov, waiting in vain for Rennenkampf to come to his rescue, failed to order their retreat until the 29th. By then it was too late, and only fragments escaped. Two Russian corps were annihilated, and two others were mangled — Samsonov committed suicide.

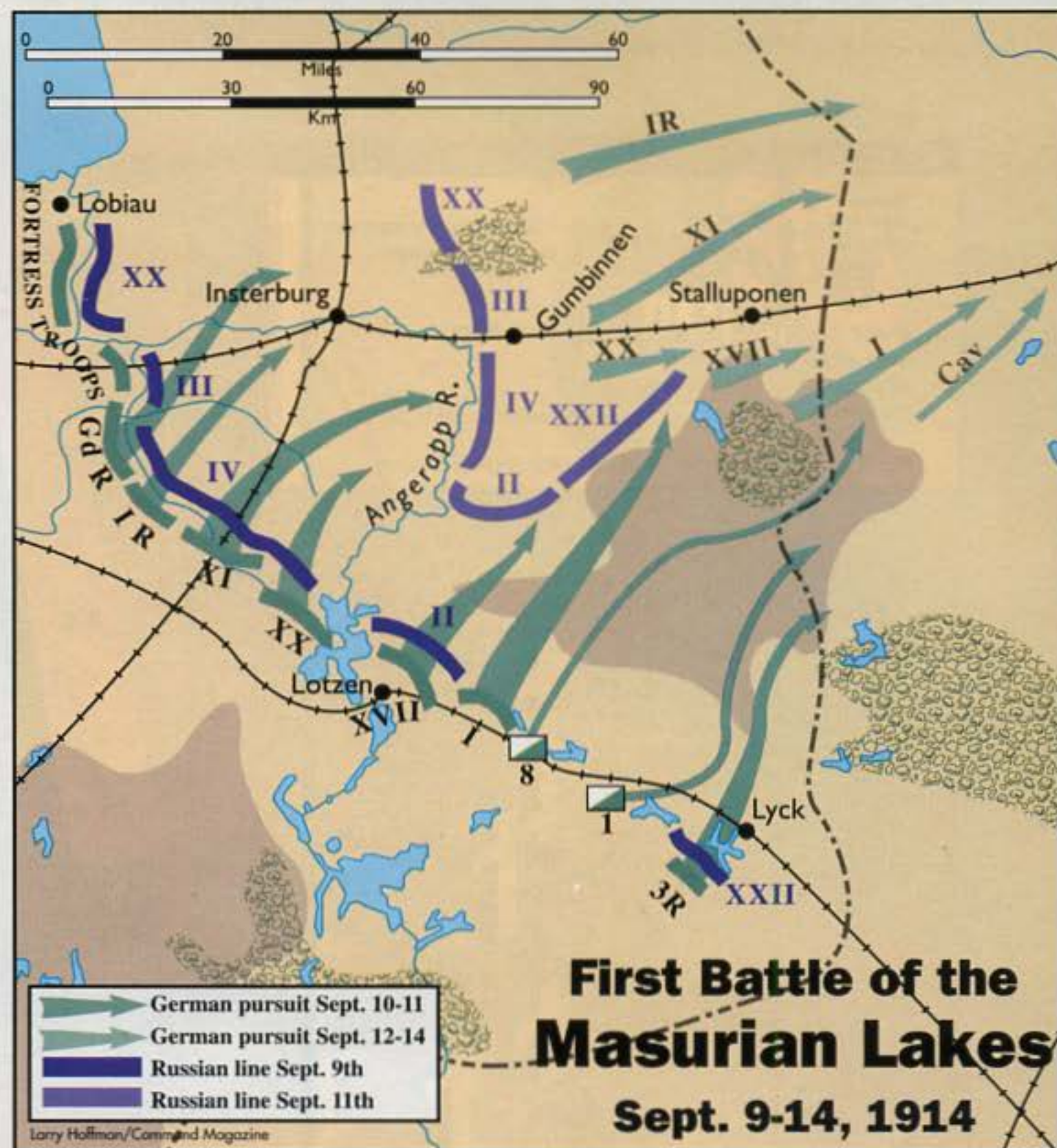
H-L, reinforced by the two corps von Moltke had withdrawn from the western front, then turned their attention to Rennenkampf. On 7 September, they sent François to strike the 1st Army's left near Lotzen, and by the 9th he seemed on the verge of a breakthrough. Rennenkampf, whose center had repulsed attacks by three German corps, ordered a withdrawal to the safety of his fortress base at Kovno. His army's retreat was so hurried his staff derisively nicknamed him "Rennen von Kampf," German for "Run from the fight."

The 8th Army attempted to follow up this First Battle of the Masurian Lakes by invading Russia. But the troops were exhausted, and Russian counterattacks soon drove the Germans back across the East Prussian border.

In one month the Russian Northwest Front had lost some 300,000 men. But the Germans had also lost heavily, and unlike the Russians their losses could not be quickly replaced. Worse, while H-L were winning glory in East Prussia, in Galicia their Austro-Hungarian ally was suffering catastrophic defeat.

Opening Moves South

Conrad didn't even wait for the war to start before making his first mistake. For mobilization



purposes the Austro-Hungarian army was divided into three parts: A-Group, 28 divisions to be deployed facing Russia; Minimal Group Balkans, 8 divisions opposite Serbia; and B-Group, a strategic reserve of 12 divisions. According to plan, in the event of war with Russia, B-Group would be sent to reinforce A-Group. But on 30 July, Conrad, hoping for a quick victory over the Serbs, tried to improvise, and ordered B-Group to the Balkans instead. This was to be done simultaneously with A-Group's move into Galicia.

Informed this change would require a reworking of the railway timetables, Conrad agreed to delay A-Group's mobilization for five days to allow for it. Once made, this change could not be reversed, and it gave the Russians that much more time to concentrate Gen. Nikolai Ivanov's Southwest Front along the Austro-Hungarian border.

The next day Conrad changed his mind about the strategic reserve, deciding to send it to Galicia after all. But the limitations of the Austro-Hungarian rail system again intervened. To prevent chaos, B-Group would have to complete its move to the Serbian front before it could be sent back north. The problem was compounded by Gen. Oskar Potiorek, the Austrian commander in the Balkans, who allowed several of B-Group's divi-

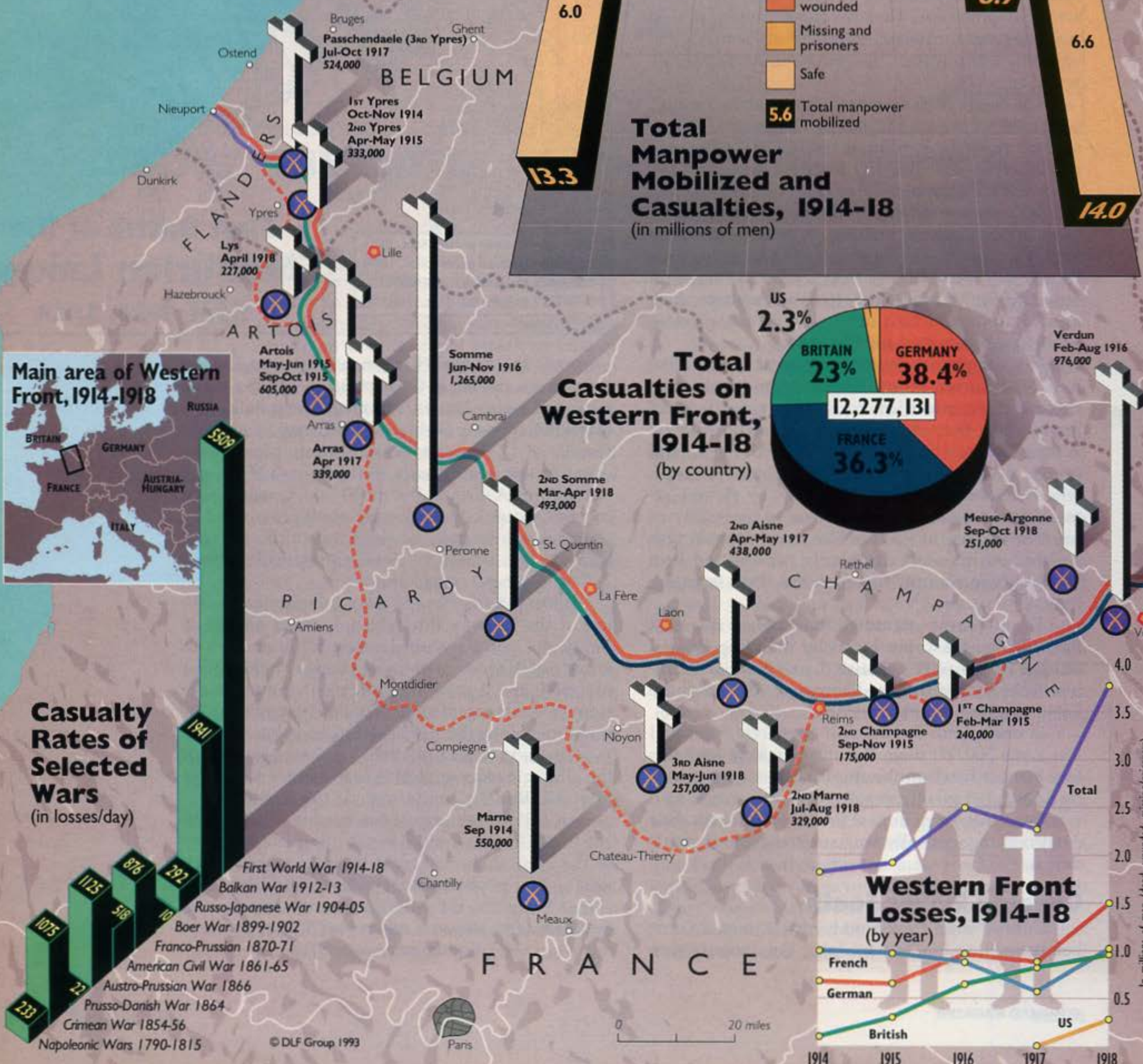
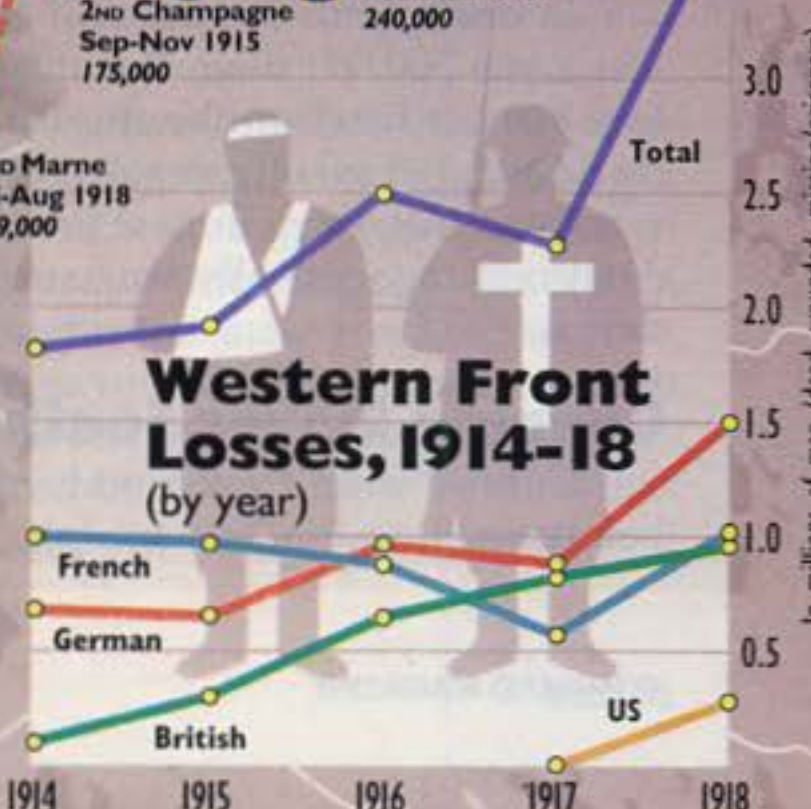
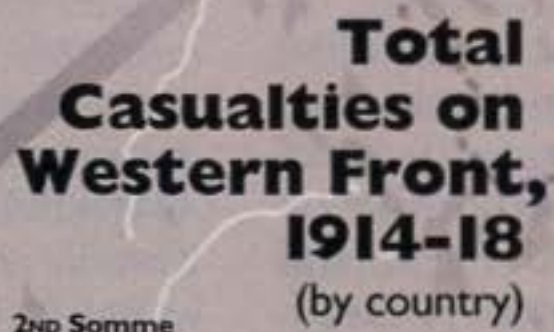
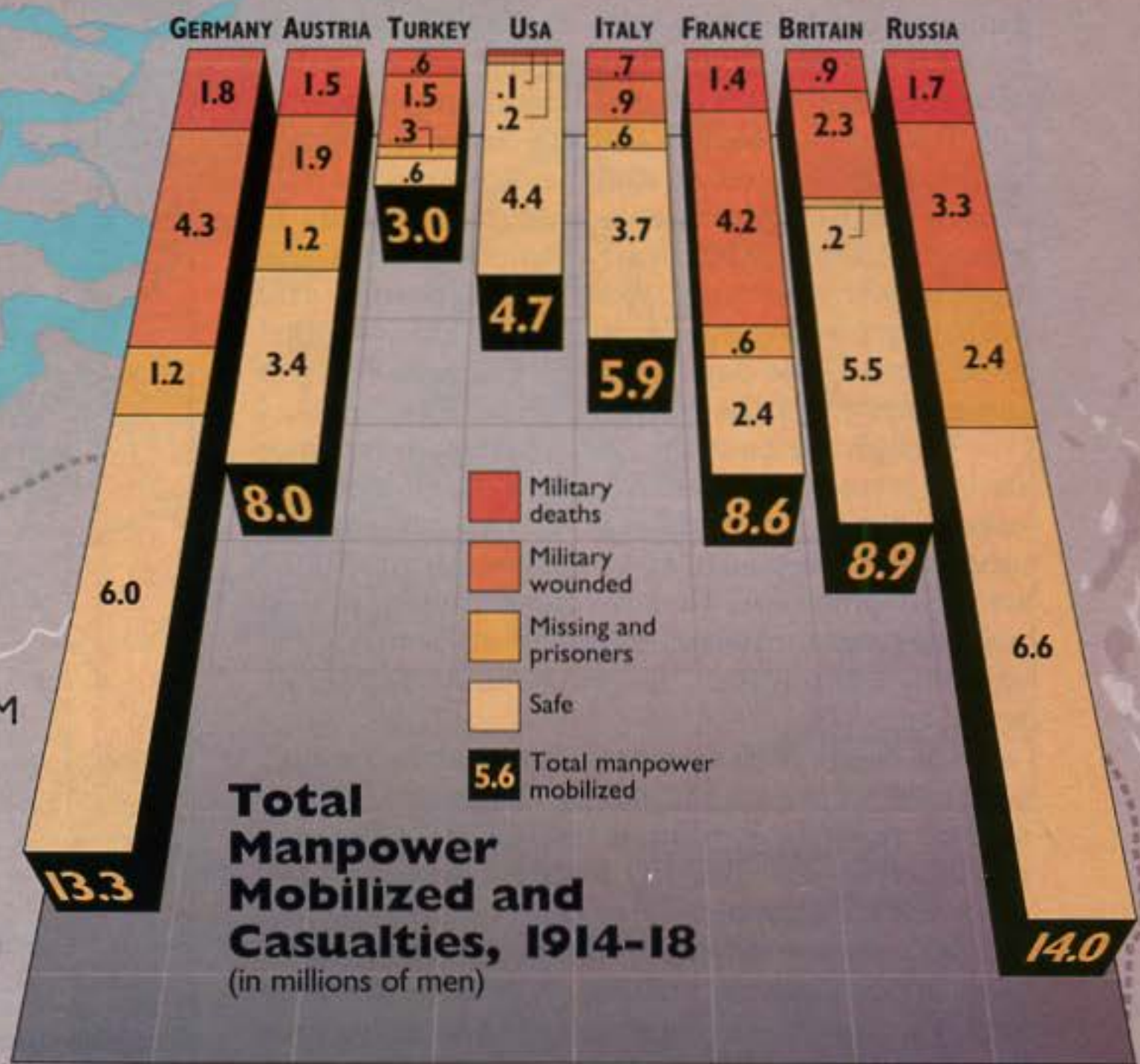
(Continued on page 20)

Millions of soldiers became casualties in the attrition battles in France

KEY

- Arras Apr 1917 330,000
- Major battle (1914-18) with date and total casualties* for all participants (column is proportional to losses)
- Major military fortress or fortified town
- Main frontline, 1915-1917
- German gains, spring 1918

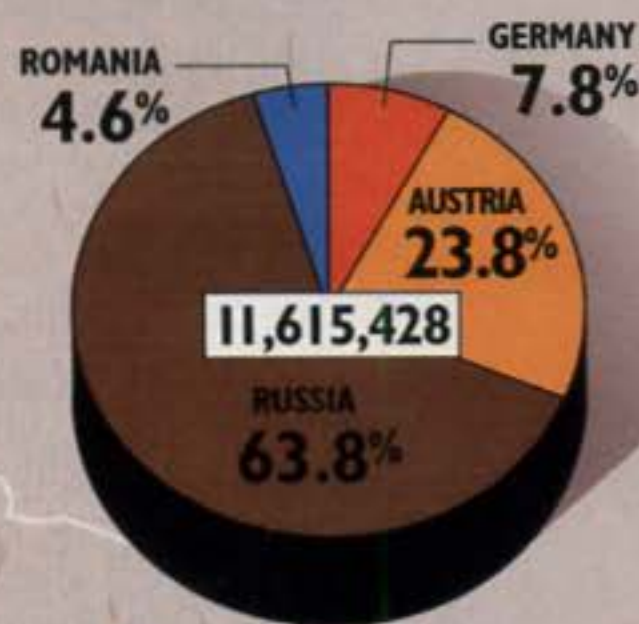
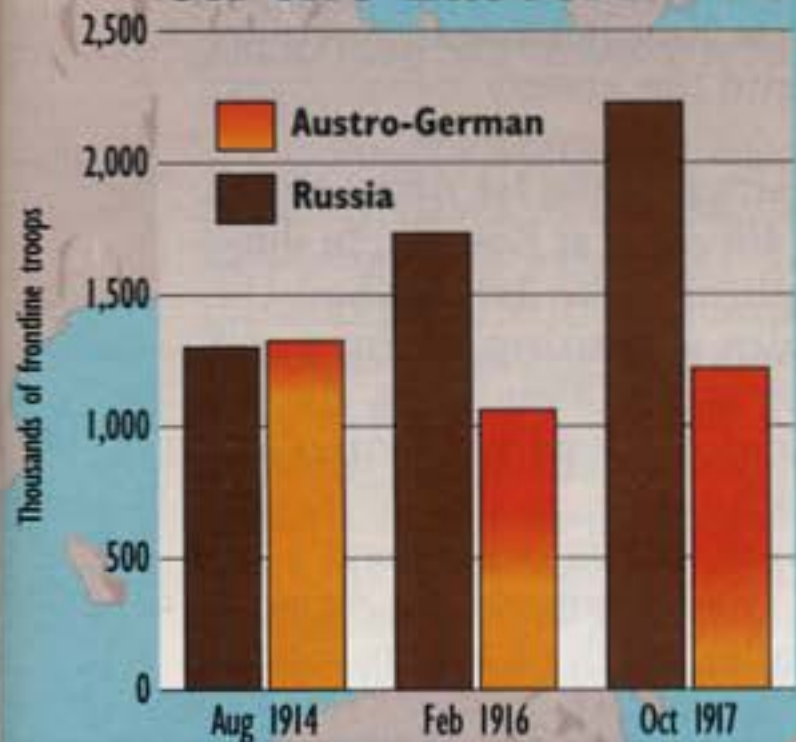
*Total casualty figures include all KIA, WIA, MIA and POWs.



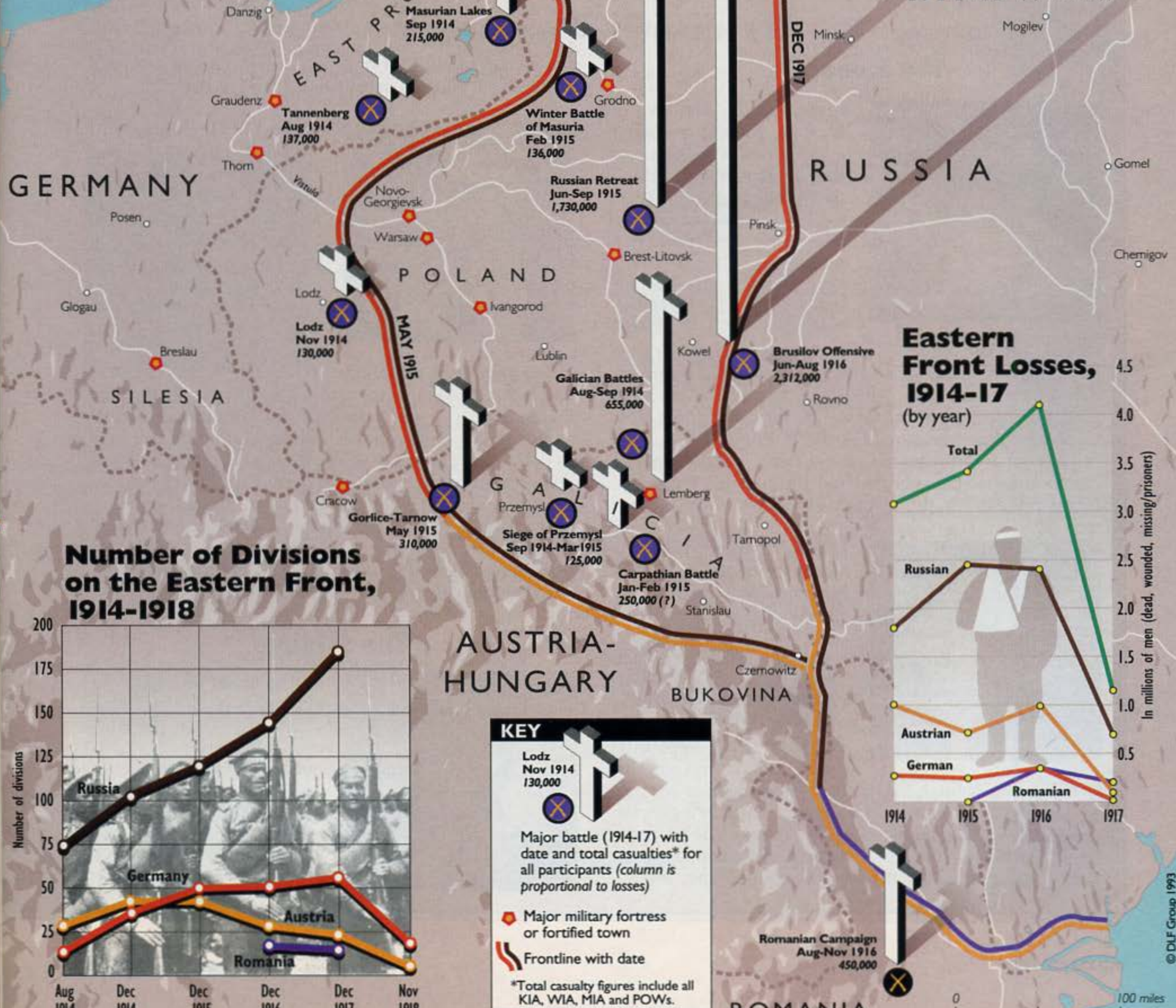
The Unknown War, 1914-1917

Russia and Austria lost millions in little known battles on the Eastern Front

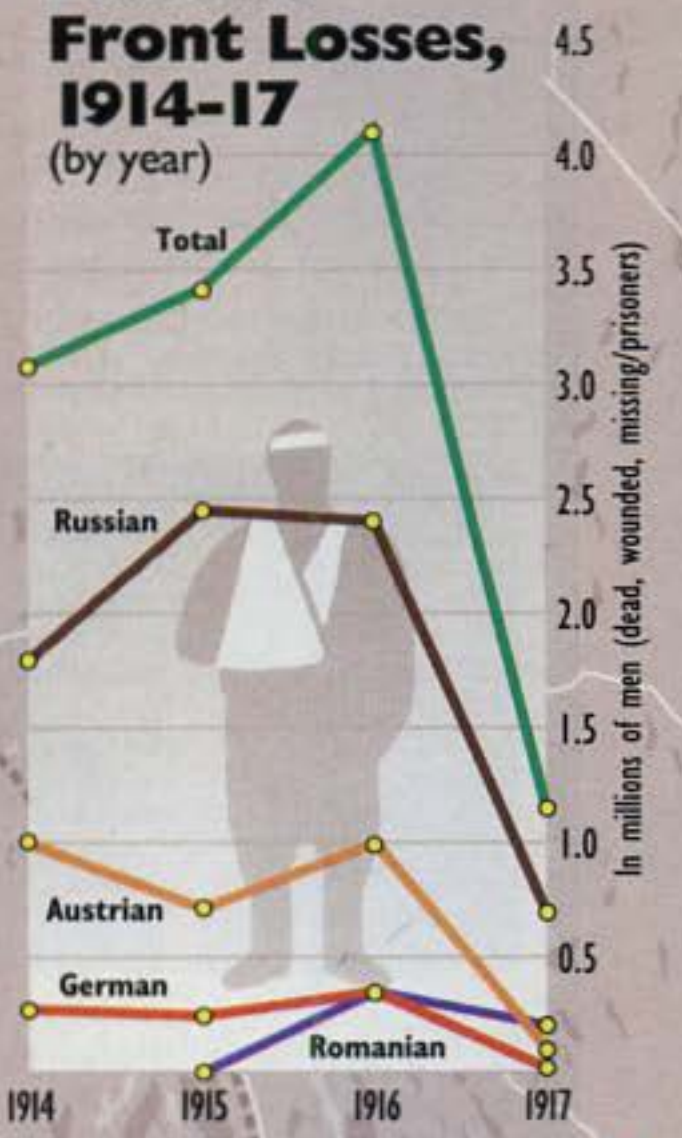
Balance of Forces on the Eastern Front



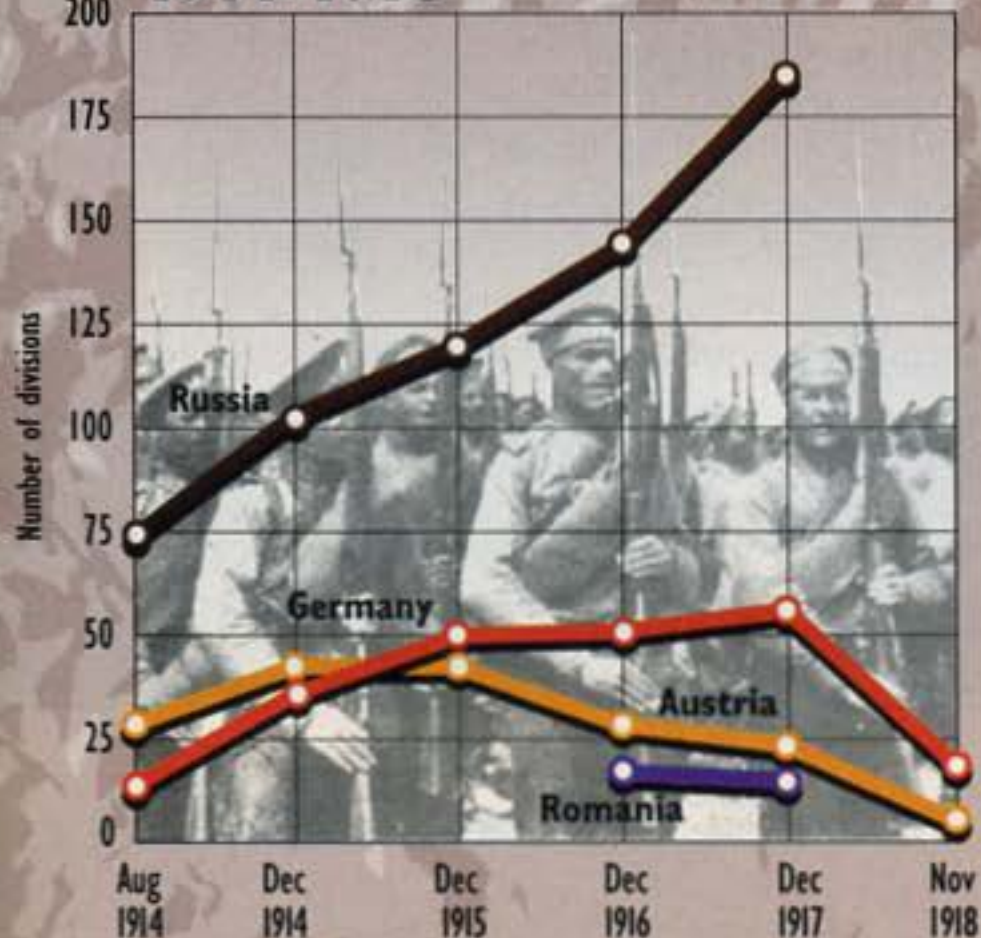
Total Casualties on Eastern Front, 1914-17 (by country)



Eastern Front Losses, 1914-17 (by year)



Number of Divisions on the Eastern Front, 1914-1918



KEY

- Lodz Nov 1914 130,000
- Major battle (1914-17) with date and total casualties* for all participants (column is proportional to losses)
- Major military fortress or fortified town
- Frontline with date

*Total casualty figures include all KIA, WIA, MIA and POWs.

(Continued from page 17)

sions to get embroiled in fighting around Belgrade, preventing their return north. It wasn't until 28 August that the remainder, making up the 2nd Army, began to arrive in Galicia.

By then A-Group's three armies were engaging Ivanov's four along a 200-mile front. Conrad, anxious to strike the first blow, had begun his offensive on the 19th, aiming his left and center armies (1st and 4th) toward Lublin and Kholm, to sever the rail links connecting Warsaw with Kiev. Protecting the right flank of that advance, the Austro-Hungarian 3rd Army had to stretch its line to the right to fill the gap left by the still absent 2nd Army. Gen. Rudolph von Brudermann, 3rd Army's fiery commander, was told to conduct an "active defense," which he interpreted by ordering an all-out attack toward Dubno.

Both sides were moving blindly. Instead of using his cavalry for reconnaissance, Ivanov deployed them to cover the gaps between his armies. This unusual disposition had an unanticipated effect: the Austro-Hungarian cavalry, expecting to do battle with a Russian cavalry screen, instead ran directly into the enemy infantry and was destroyed.

On 23 August, Count Dankl's 1st Army struck the badly-led Russian 4th Army at Krasnik. In three days of confused fighting, the 1st pushed the Russians back six miles, capturing 30 guns and 6,000 prisoners. Ivanov sacked Gen. Zalts, the 4th Army's commander, and replaced him with Gen. Aleksei Evert on the 26th.

That same day Baron Moritz Auffenberg's 4th Army attacked Gen. Pavel Plehve's 5th Army at Komarow, some 40 miles south of Kholm. Sixty-

Dramatis Personae

The Monarchs



Franz Joseph. Emperor of Austria, then Emperor of Austria and King of Hungary (*Kaiser und Konig*), he reigned from 1848 to 1916. Eighty-four in 1914, Franz Joseph lived his life with a rigid discipline he was never able to impose on his ramshackle empire. He inherited all the ill-luck that

marked the last centuries of the House of Hapsburg. At home his son committed suicide and his wife was murdered by an anarchist. Abroad he involved Austria in wars that cost her Italy and the dominant position over Germany. The events of 1914, starting with the murder of his nephew in Sarajevo, underscored and brought to climax the two threads that ran through his long rule: family tragedy and military misadventure.



Wilhelm II, Emperor of Germany from 1888–1918. His withered left arm, the result of an accident at birth, gave Wilhelm a deep sense of inferiority, which he sought to cover with arrogant bluster. Bullying and erratic, his constant sword-rattling kept Europe's diplomats on edge for

two decades. Though his off-hand assurances of support to Austria-Hungary in 1914 probably helped bring on the crisis more than anything else, once it began he proved a timid warlord. When H-L succeeded Falkenhayn, the Kaiser was pushed quietly into the background, leaving

the actual running of both the army and the nation to Ludendorff. He died in exile in Holland in 1941.



Nicholas II, Emperor of Russia, 1894–1917. Czar of all the Russias, and first-cousin to the Kaiser, the last Romanov ruler was an autocrat with a spine of jelly. Indifferent to almost everything outside the circle of his immediate family, he stubbornly refused to delegate to the elected

Duma (popular assembly) the powers he was too weak to use himself. Assuming command at *Stavka* in 1915, he helped insure the appointment of a number of virtual cretins to key military posts. While he attended dutifully to daily staff meetings (where he always remained silent and was probably bored), the running of his empire was left to his neurotic wife, the mad monk Rasputin, and an ever-changing cast of incompetent and corrupt ministers. A religious fatalist, Nicholas believed to the end all his actions had been the result of God's will. He was murdered along with his family by the Bolsheviks in 1918.

The Soldiers



Baron Franz Conrad von Hotzendorff (1852–1925). Chief-of-Staff of the Austro-Hungarian army, Conrad worked with his nation's devious foreign minister, Count Berchtold, to provoke a war with Serbia. Described by a contemporary as "small, elegant,

five years old and in poor health, Plehve was nevertheless all soldier; he fought the Austro-Hungarians to a standstill until lack of ammunition forced him to retire on 31 August. But to Conrad, already buoyed by Dankl's indecisive victory over Zalts, Plehve's orderly retreat appeared to be a rout.

Conrad's optimism was only slightly dampened by news of disaster on his right, where Brudermann's extremely "active defense" had come to grief. With 2nd Army still in transit, the 3rd Army was opposed by two Russian armies, Nikolai Ruzskii's 3rd and Aleksei Brusilov's 8th, meaning Brudermann was taking the offensive against forces outnumbering him two to one. More, as there was a considerable gap between Auffenberg's right and Brudermann's left, both of 3rd Army's flanks were in the air.

Brudermann attacked Ruzskii on 26 August, and was repulsed with heavy losses. By the 28th, Russian counterattacks had forced the Austro-Hungarians to pull back behind the Gnila Lipa River. The following day Ruzskii and Brusilov began a combined assault; the 8th Army moved around the enemy right flank and the 3rd maneuvered to get around the left. The battle ended on 30 August with the Austro-Hungarians in full retreat.

In attacking Brudermann, Ruzskii had seemingly exposed his own right and rear to an attack from Auffenberg's 4th Army. Since Plehve had been "routed," Conrad saw no reason not to seize the opportunity. He therefore directed Auffenberg to reorient his army's advance from the northwest to the southeast to strike the 3rd Army from behind. In doing so, a 40-mile gap was opened between the armies of Dankl and Auffenberg (1st and 4th), and

almost girlish in figure," Conrad deeply resented Germany's dominance over Austria-Hungary. Once referred to as "the most brilliant soldier of Central Europe," he actually lost every major campaign of his career.



Erich von Falkenhayn (1861–1922). Minister of War, Falkenhayn replaced von Moltke as chief-of-staff in 1914. Tall, trim, intellectual and energetic, Falkenhayn's mind was often divided against itself. Secretly convinced after 1914 that the war could not be won, his offensive at

Verdun was designed to create a bloodbath that would shock the politicians on both sides into negotiating a "peace without victory." Yet at the same time he supported the idea of unrestricted submarine warfare, a strategy almost guaranteed to bring the United States into the war against Germany. He overestimated Russian strength in 1915, and underestimated it in 1916. Later, after being replaced as chief-of-staff, he ably led an army in the conquest of Romania, but confided to a friend: "Who once has held the laurel wreath in his hand can never be satisfied with another job."



August von Mackensen (1849–1944). An old-fashioned Prussian, Mackensen led his 11th Army to victories over the Russians, the Serbs and the Romanians (though much of the credit must be shared with his able chief-of-staff, and later founder of the *Reichswehr*, Hans von Seeckt).

Always true to the Kaiser, Mackensen attended Wilhelm II's funeral as the last surviving field marshal of Imperial Germany.

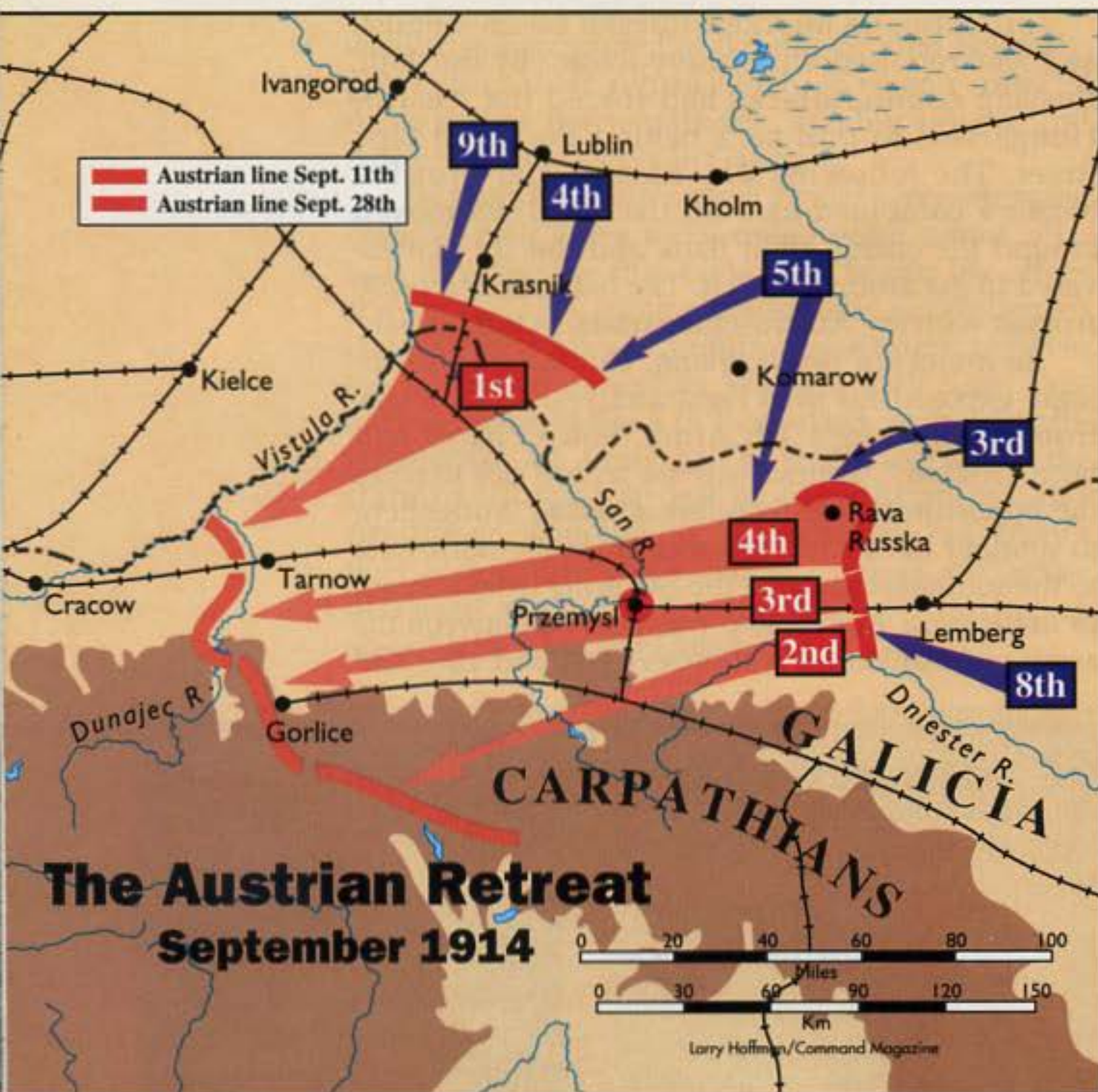


Grand Duke Nicholas (1856–1929). Six feet, six inches tall, the Grand Duke had never held a major field command before being appointed commander-in-chief of the Russian army at the outbreak of the war. His greatest mistake was allowing his nephew the Czar to saddle him with an incompetent chief-of-staff, Gen. Ianushkevich. He later explained: "I did not think I had the right to oppose the Sovereign. Let history condemn me for that." Shuffled off to fight the Turks in September 1915, he won several ultimately irrelevant battles before the revolution forced him into exile.



Aleksei Brusilov (1853–1926). The son of a general, the young Brusilov was a member of St. Petersburg's Corps of Pages, and grew to be a man of action. Though he served in the cavalry during the Russo-Turkish War of 1877, he avoided the narrow doctrinal outlook that characterized most cav-

alry officers. That openness to new ideas led to the amazing initial success of his 1916 offensive. Unlike most high ranking Czarist officers, the patriotic Brusilov reconciled himself to life under the Bolsheviks: "I could not and cannot think it either possible or fitting for me to wander about beyond our frontiers as an emigre."



it lay directly in the path of the unbroken and now resupplied Russian 5th Army.

Plehve attacked on 6 September, engaging Auffenberg's left in an inconclusive fight at Rava Russka before advancing west across Dankl's line of supply. Dankl, already under pressure from Evert's reorganized 4th Army, wanted to retreat, but Conrad refused. Then, on 10 September, an intercepted wireless message revealed that *Stavka* was bringing up reserves to exploit the gains on 4th Army's left. The entire Austrian right — the 4th, 3rd and 2nd Armies — might be cut off and destroyed.

The danger was clear, even to Conrad. On 11 September, he ordered a retreat to the San River. It was almost too late; the Austro-Hungarian armies had begun to disintegrate under the continuous Russian pressure. Unable to reform along the San, they continued to fall back, finally coming to a halt behind the Dunajec River and the crest of the Carpathian Mountains. All of Galicia, except the besieged fortress of Przemysl, had been lost.

Russian casualties totaled 250,000, but Austrian losses were a staggering 400,000, including 100,000 taken prisoner. In one month Conrad had lost nearly half his forces.

Autumn 1914

Conrad's defeat overshadowed the German victory at Tannenberg. With Russian mobilization in high gear, the odds against the Central Powers

were lengthening. While H-L could only scrape together several *ad hoc Landwehr* (Home Guard) corps from the fortress garrisons of Posen, Breslau and Thorn, the Russians deployed two whole new armies, the 10th, west of Grodno, and the 9th, southwest of Lublin. There were now over 2 million soldiers under the command of Grand Duke Nicholas.

In mid-September, Gen. Erich von Falkenhayn, von Moltke's successor at OHL, rejected Hindenburg's appeal for reinforcements. His attention was focused on France, where the Allied and German armies were engaged in the "race to the sea." The two easterners would have to make do with the troops they had on hand.

Ludendorff met with Conrad on 18 September to draw up plans for a joint Central Powers counteroffensive in Poland. At Falkenhayn's direction, H-L were about to shift four corps from East Prussia to Silesia, to form a new 9th Army under the duo's personal command. They were to be ready to strike northeast toward Warsaw in 10 days time. Conrad, confusing his own high morale with that of his soldiers, enthusiastically agreed to support the attack with another offensive of his own.

The German 9th Army, totaling 18 divisions, including two *Landwehr* corps, attacked on schedule, but made only slow progress against little opposition but a great deal of rain and mud. By 8 October, the Germans were approaching the Vistula, still without having encountered any significant resistance. Farther south, the Austro-Hungarians had reached the San, raising the siege of Przemysl. H-L were confident they had taken the Russians by surprise. "Here everything is in excellent order," Hoffmann wrote in his diary.

But that illusion was shattered the next day, when H-L were presented with a copy of the Russian plan of operations that had been taken from the body of an enemy officer. On 22 September, in preparation for his own offensive into Silesia, Grand Duke Nicholas had ordered a regrouping of his armies along the Vistula. This maneuver was executed with unusual skill, and was largely completed by 9 October. That put four concentrated Russian armies on a line from Warsaw to the San, from north to south: 2nd, 5th, 4th and 9th.

Unexpectedly confronted by 60 well organized and positioned enemy divisions, H-L decided to press on nevertheless. Though they got within 12 miles of Warsaw, they failed to gain a bridgehead across the Vistula. "The hardest time of the campaign in my experience...endless panics and alarms," wrote diarist Hoffman.

Weight of numbers began to tell as Plehve's 5th Army counterattacked the German left, gradually forcing it back. The 9th Army's front now resembled a reversed and upside-down L, with its right and center along the Vistula, and its left bent

back behind the Pilica River. "Our far-flung battle-line was firmly held in front while superior enemy forces...threatened to roll up our left," Hindenburg later explained. It was not surprising that Hoffman said he found Ludendorff "frightfully nervous."

After five days of this, H-L had enough. On 18 October, the 9th Army began to withdraw. On 21 October, against Ludendorff's advice, Conrad attempted a counterstroke that cost Dankl 40,000 men. Flanked by the Russian advance across the Vistula, the Austro-Hungarians retired from the San, and Przemysl was again besieged. The 9th Army continued its retreat, and by the 24th was back where it had started four weeks earlier, less 100,000 casualties, including 36,000 dead.

To replace such heavy losses, H-L received only two reserve corps. Seeking additional troops, Ludendorff traveled west to meet with Falkenhayn. The results were unsatisfactory; Falkenhayn promised four corps, but only after the conclusion of his own offensive at Ypres. H-L's mood on learning they would be on their own for another month was only slightly improved by Hindenburg's promotion to command OberOst (Supreme Headquarters East).

The continuing stream of enemy wireless intercepts proved still more comforting. They revealed Russian plans and dispositions in considerable detail, and thanks to this "incomprehensible lack of caution," as Hindenburg observed, OberOst was provided with a "punctual knowledge of the dangers that threatened."

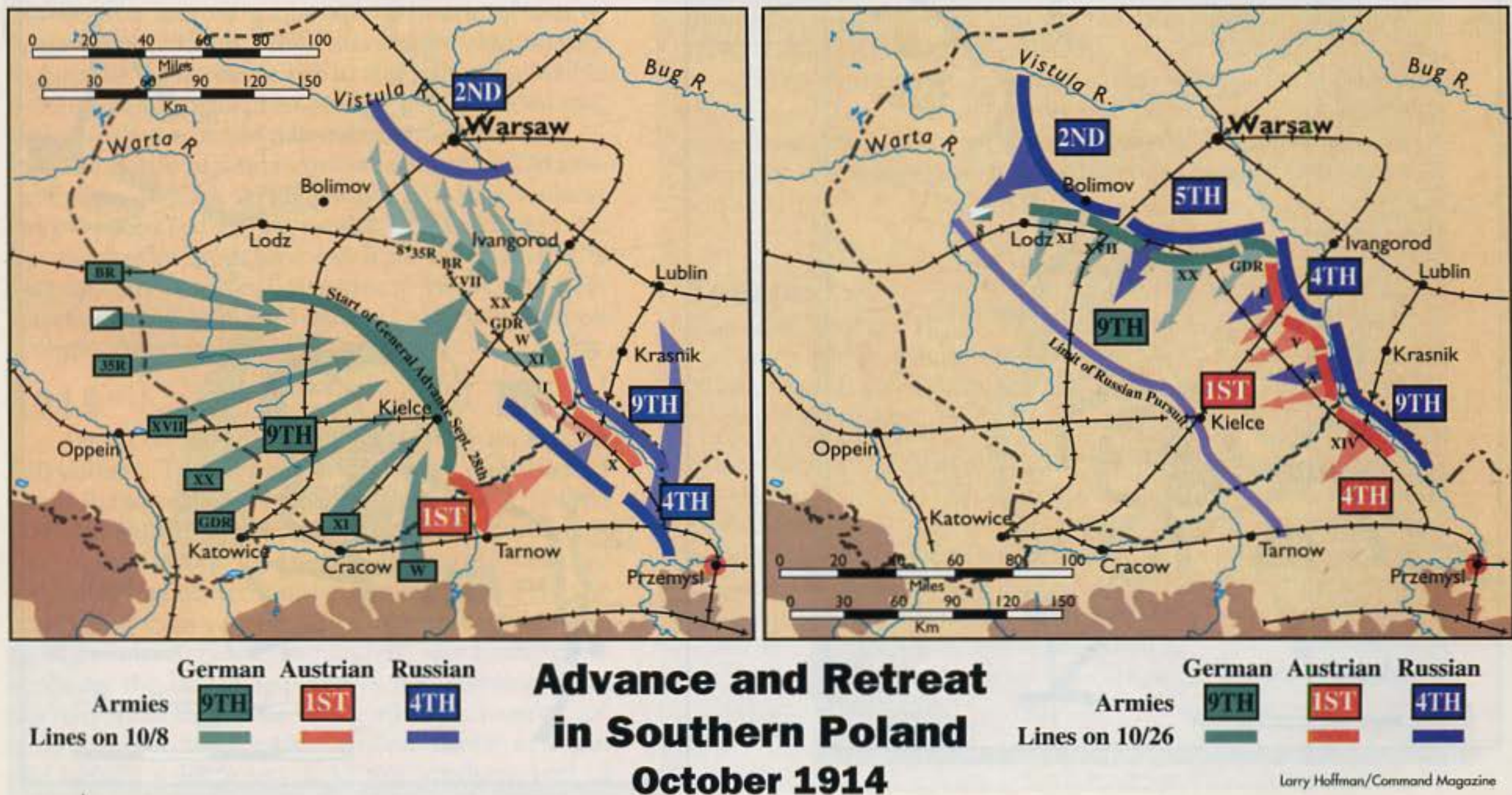
Those dangers were considerable. The Warsaw campaign had only momentarily dislocated Stav-



Results of the second bombardment of Przemysl — broken towers on Fort No. 10.

ka's offensive timetable. Gen. Ruzskii, who had replaced Zhilinskii in command of the Northwest Front, now had five armies facing the Germans: the 10th west of the Nieman River, Rennenkampff's 1st along the Narew River, and the 2nd, 5th, and 4th in central Poland. Ivanov was left with three armies: the 9th and 3rd northeast of Krakow, and Brusilov's 8th holding the eastern slopes of the Carpathians.

Thanks again to the intercepts, H-L knew Scheidemann's 2nd Army and Plehve's 5th Army



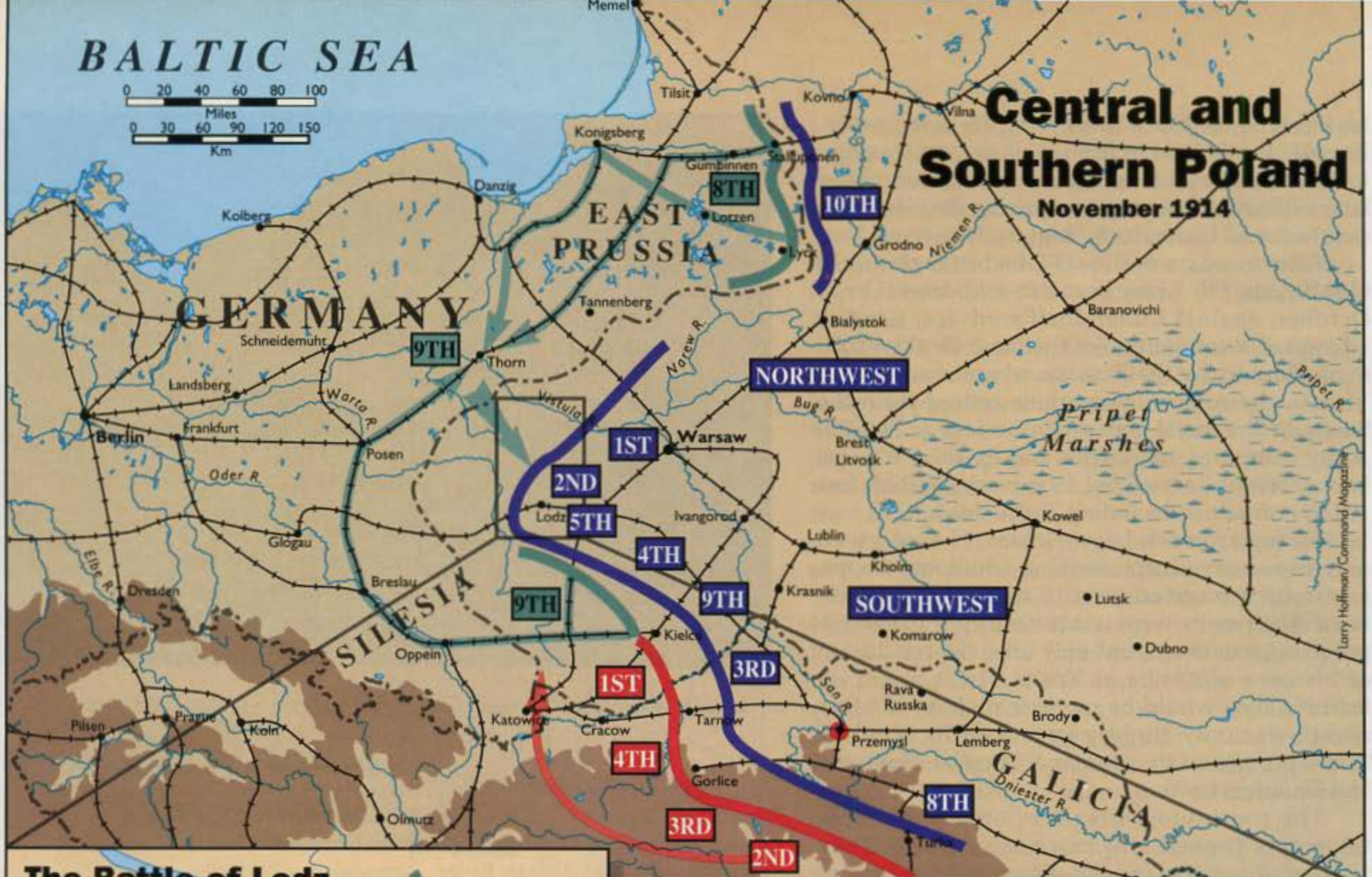
Larry Hoffman/Command Magazine

BALTIC SEA



Central and Southern Poland

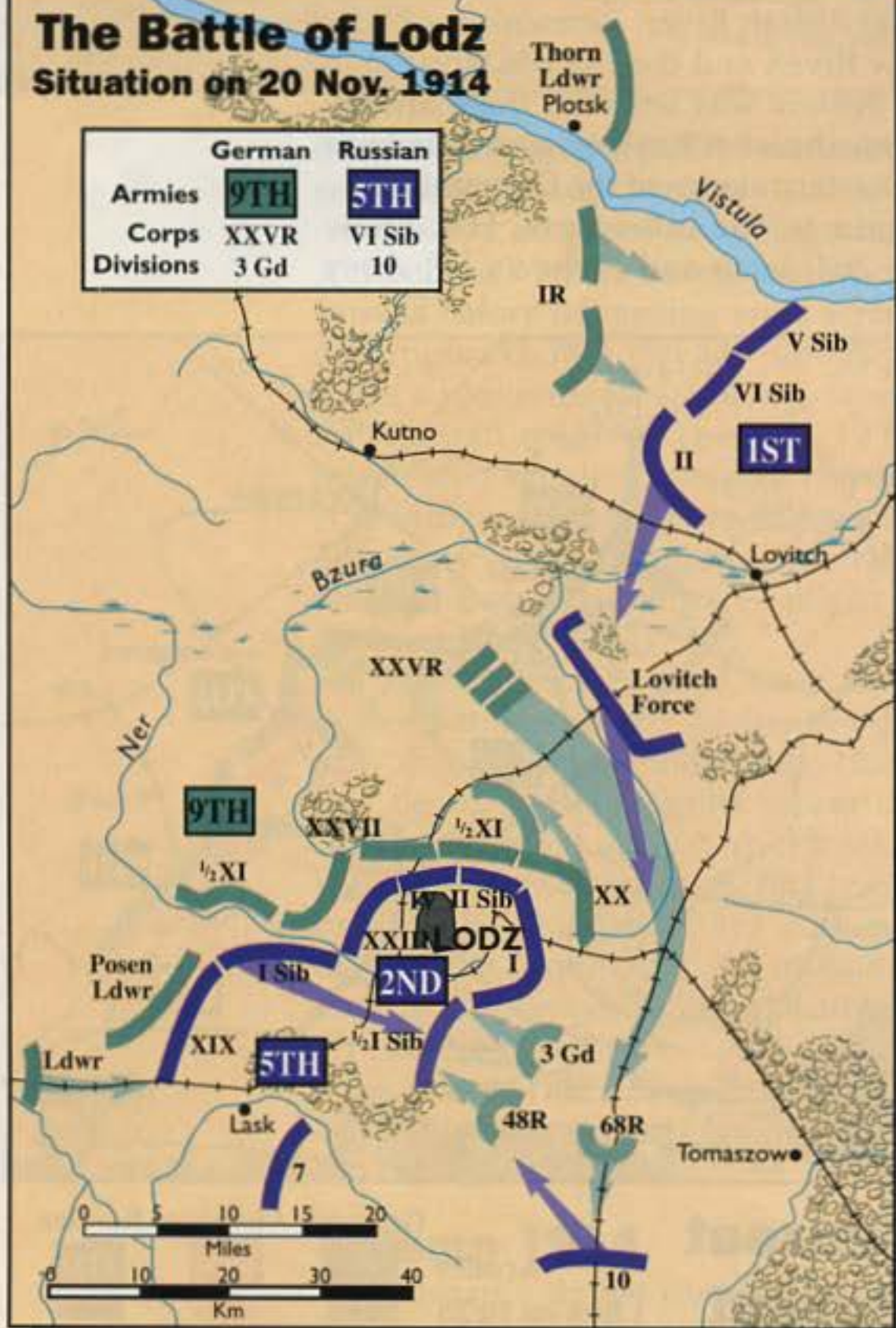
November 1914



The Battle of Lodz

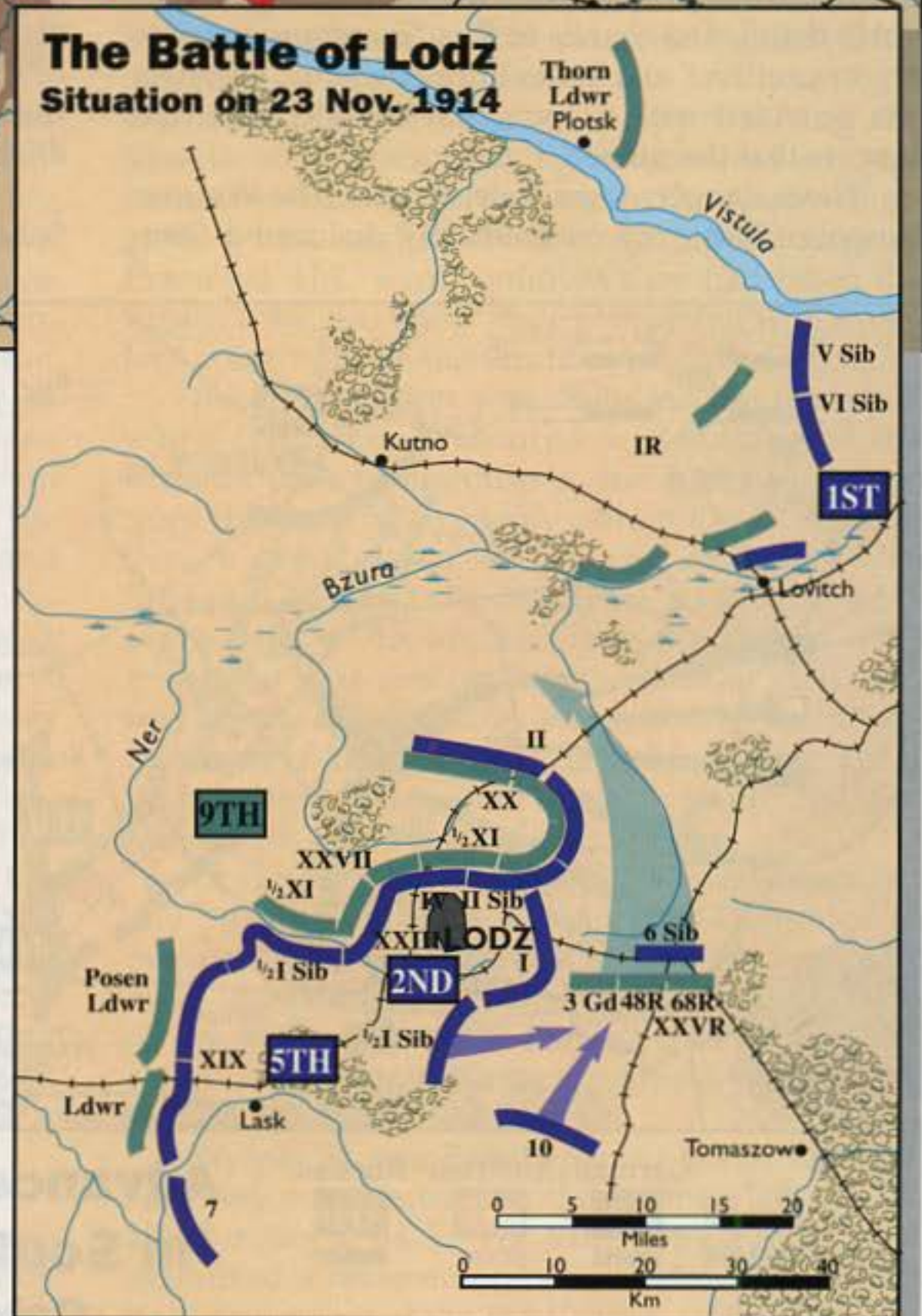
Situation on 20 Nov. 1914

	German	Russian
Armies	9TH	5TH
Corps	XXVR	VI Sib
Divisions	3 Gd	10



The Battle of Lodz

Situation on 23 Nov. 1914



had instructions to resume the drive into Silesia on 11 November. They were also aware a gap had opened between Scheidemann and Rennenkampf. Ludendorff decided to use Germany's superior rail communications to launch a preemptive blow. The 9th Army, now commanded by August von Mackensen, was shipped north to Thorn in only five days. On the 11th, Mackensen struck south, overwhelming the Siberian corps protecting 2nd Army's right flank.

Scheidemann pulled his remaining four corps back to defensive positions around Lodz and called for help. H-L ordered Mackensen to keep attacking the 2nd Army from the west, while Gen. Scheffer-Boyadel's XXV Reserve Corps, supported by the 3rd Guard Division and a cavalry corps, pushed southeast of Lodz to cut off its line of retreat.

But the 2nd Army wasn't retreating. OberOst had intercepted Scheidemann's order to abandon Lodz, but not the Grand Duke's countermand. Plehve, with his usual energy, was force-marching to the rescue. At the end of several days of heavy fighting, it was Scheffer, not Scheidemann, who was surrounded. Jubilant, the Russians assembled 18 trains to carry Scheffer's men into captivity.

The Germans seemed about to suffer a Tanenberg in reverse, but Scheffer was not Samsonov. Forming his 60,000 troops into a huge phalanx, he caught Ruzskii off guard by striking northeast, away from Mackensen's forces. The 1st Army should have blocked that escape route, but due to Rennenkampf's usual sloth, only the poorly armed 6th Siberian Division stood in the way. Scheffer virtually swallowed whole the Siberians, capturing 16,000 men and 64 guns before breaking out to rejoin the 9th Army. After this remarkable victory — for which they were not in the least responsible — Hindenburg was promoted to field marshal and Ludendorff was made a lieutenant general.

The Battle of Lodz continued until 6 December, when the 9th Army, now including Falkenhayn's promised corps, finally captured the city. Ruzskii had to withdraw his front halfway to the Vistula, but German attempts to break the new Russian line failed, and mutual exhaustion soon brought the campaign to an end.

1915

After Lodz, H-L returned to the struggle with Falkenhayn. The two argued that given sufficient forces in the east they could knock Russia out of the war. But Falkenhayn was a "Westerner," convinced the war would be decided in France. In January 1915, the Kaiser, temporarily immobilized by the conflicting views of his chief of staff and his two most prominent field commanders, was finally pressured by the latter's supporters into sending them the four corps that made up the strategic reserve.

OberOst now commanded three armies. Mackensen's 9th Army held the southern end of

The German Imperial Army, 1914-1918

In 1914 the German Imperial Army consisted of 50 active divisions organized into 25 corps, with an additional Guards Division and 32 reserve divisions. All the units were alike except the reserve divisions had nine artillery batteries instead of 12. Thus the initial mobilization resulted in a total of 83 divisions.

The mobilization left a large pool of individual reservists, untrained men and *Landwehr*. They were formed into another 22 reserve divisions between October 1914 and February 1915. By the end of the latter month, there were 105 reserve and active divisions, with another 38 *Landwehr*, *Ersatz* (replacement) and other divisional-equivalent units.

In March and April 1915, 19 more divisions were raised on a three-infantry-regiment basis. These new divisions were formed by withdrawing a regiment from already existing divisions, reducing those older units to three regiments.

Four independent brigades, each of three infantry regiments, were also formed in June 1915. At first these units had only three artillery batteries, but they were given an additional six in 1916 and reclassified as divisions. By August 1916, there were 170 divisions.

Between June and December 1916, another 34 divisions were formed. A few were created by combining previously independent battalions, but most were formed by regrouping the fourth regiment still found in many of the earlier divisions. By the end of 1916, the total number of German divisions had risen to 203.

In 1917 all divisions were brought to a three-regiment basis. At the same time, 13 entirely new divisions were raised inside Germany. For the start of the 1918 spring campaigns, there were 241 divisions in the field.

Those numbers, however, represent only the infantry; there were also 11 cavalry divisions. More cavalry squadrons were raised during the war, but they were integrated into the infantry divisions, and no further cavalry divisions were formed.

by John P. Mertens, Jr.

Sources

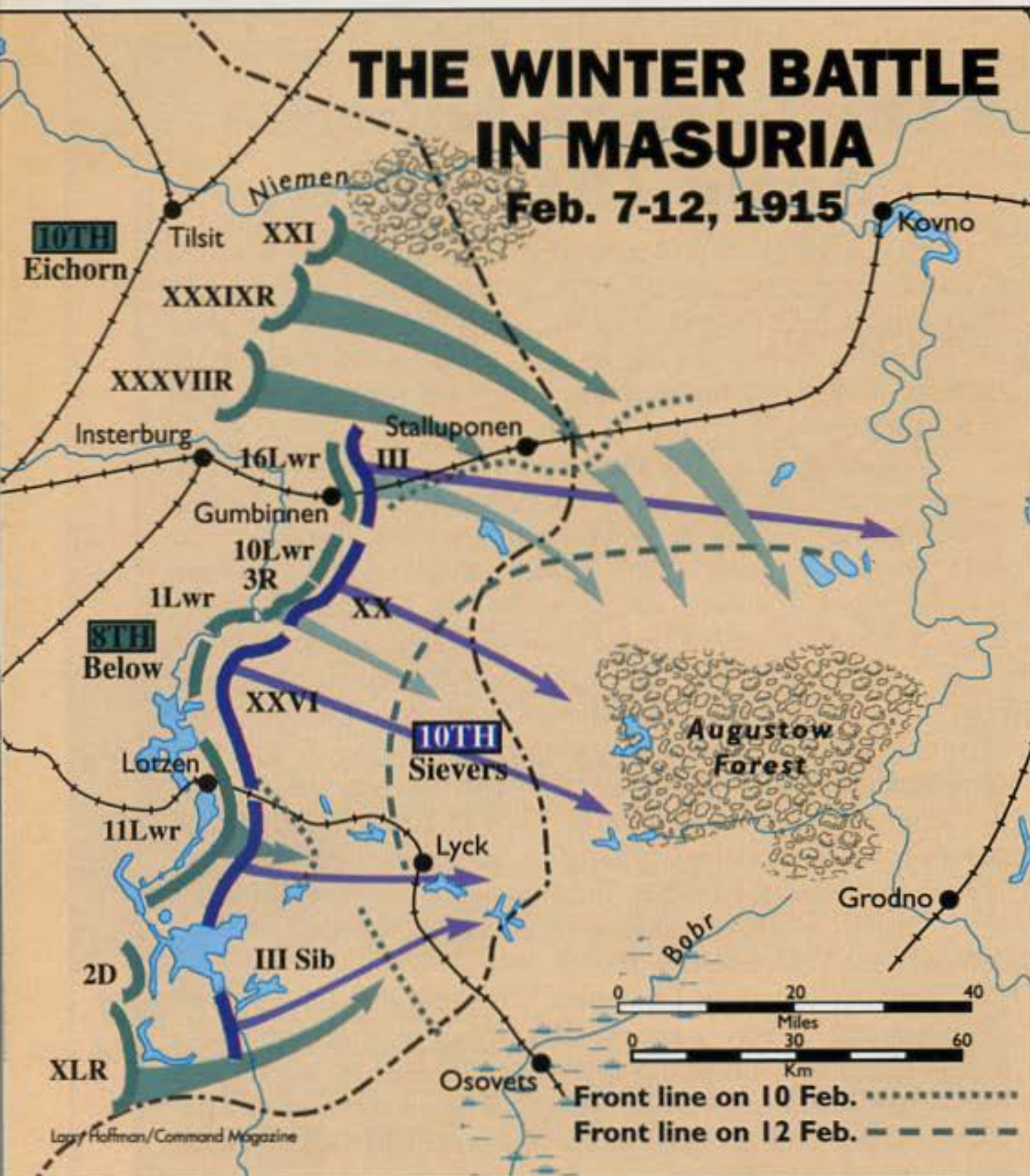
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Nash, David. *German Army Handbook, April 1918*. London: Arms & Armour, 1977.

[Ed's Note: For details on the structure of German and Austro-Hungarian divisions, see Command no. 16, p. 28, and Command no. 23, p. 51, respectively. The 1914 Russian divisional organization was much the same as the German, except each Russian regiment had four, instead of three, battalions. However, since Russian battalions had an authorized strength of 800, compared to 1,000 for the Germans, in actuality both divisions ended up with approximately equal rifle strengths varying between 12,000 and 13,000.]

THE WINTER BATTLE IN MASURIA

Feb. 7-12, 1915



the German line, facing Warsaw. Gen. Otto von Below's 8th Army was deployed near Lotzen, and Gen. Herrmann von Eichhorn's 10th was forming near Gumbinnen. H-L planned to use those last two armies to attack southeast from East Prussia, in conjunction with an Austro-Hungarian drive from the Carpathians. This plan, heavily influenced by Conrad, was intended to cut off and destroy all the Russian armies in the Polish salient.

Conrad's part of the offensive began on 23 January, in appalling weather. On the Austro-Hungarian right, Gen. Pflanzer-Baltin's 7th Army drove the Russians back 65 miles to the Dniester River, and recaptured Czernowitz, the capital of Bukovina Province. (Czernowitz would change hands another 13 times during the war.) Elsewhere, though, the new drives rapidly broke down. Conrad's left and center armies (the Austro-Hungarian 3rd, and the new and small German South Army) floundered in waist deep snow, and were repulsed.

On 31 January, Mackensen's 9th Army made a feint at Bolimov, east of Lodz, to divert Ruzskii's attention from the German build-up in East Prussia. The assault was preceded by a barrage of 18,000 chlorine gas shells, but this first use of poison gas in military history was a failure — the

extreme cold rendered the chlorine largely inert, and adverse winds blew the gas back on the attackers.

One week later, H-L's 8th and 10th Armies began another pincer attack, this time against Russian Gen. Rudolf Sievers' 10th Army. Gen. Below, striking the Russian left flank at Lyck, was halted by the stubborn defense of the III Siberian Corps. Eichhorn had better luck. Attacking Sievers' right, he took 10,000 prisoners, and severed 10th Army's communications with Kovno. Sievers reacted by retreating southeast toward Grodno. The Germans managed to annihilate one Russian corps in the Augustow Forest, but the rest of 10th Army escaped. OberOst claimed 110,000 prisoners, double the actual total.

Hindenburg was awarded the coveted *Pour le merite*, but the duo's latest victory was inconclusive. Only two weeks after Sievers' mauling, Below found his units under heavy attack from Plehve's new 12th Army. "We are stuck fast along the whole front," Hoffmann admitted in early April.

Falkenhayn could take only small pleasure from his rivals' difficulties, for it was apparent Austria-Hungary was on the verge of collapse. Conrad had lost 750,000 men in the last six weeks, many due to frostbite. One German observer at the time reported the Austro-Hungarians were "exhausted, rotten."

On 28 March, the 120,000 men of the Przemysl garrison surrendered to Ivanov, thus freeing three Russian corps for operations elsewhere. With Serbia still unbeaten, and Italy about to enter the war on the Allied side, the armies of the Dual-Monarchy were stretched to their breaking point.

OHL responded by switching another four corps from France, a decision made easier by the failure of Allied offensives in Artois and Champagne. A new 11th Army was created, under Mackensen, and sent to spearhead an offensive on the Austrian front.

Falkenhayn came east as well — Mackensen's attack would be supervised by OHL, not OberOst. Falkenhayn's ambitions in the east remained limited; his goal was to save Austria-Hungary, not conquer Russia. When the blow fell, Mackensen achieved a degree of success OHL neither expected nor was fully able to exploit.

Stavka was unprepared to meet the attack. The bulk of the Russian army (57 divisions) was concentrated in Mikhail Alekseev's Northwest Front (Ruzskii had resigned in April), leaving Ivanov only 43 exhausted divisions. The winter battles had taken a heavy toll, particularly among the army's small cadre of trained junior officers. Ammunition shortages were becoming chronic, and almost one-third of the infantry had no rifles. The Russian logistical system was in chaos, overwhelmed by the need to supply 32,000 tons of grain daily to feed the army's million horses. Though the Southwest Front had an adequate amount of artillery

shells in its reserve depots, there wasn't enough transport available to move them to the front.

On 2 May, the Germans struck Gen. Radko-Dimitriev's 3rd Army on Ivanov's right, in the vicinity of Gorlice-Tarnow. Mackensen had 334 heavy guns and 96 trench mortars; the 3rd Army had four defective heavy guns, which exploded when they were fired. In 12 hours the German gunners fired 750,000 rounds. The shallow Russian trenches provided little protection, and along much of its front the 3rd Army was simply blown away. Within three days, the breakthrough was complete.

Stavka reacted to the emergency by ordering Ivanov "not to undertake any retreat whatsoever." Obediently, Dimitriev threw his meager reserves into the breach, but to little effect. By 8 May, Mackensen had destroyed four corps and taken 140,000 prisoners. Two days later, when the 3rd Army was allowed to retire to the San, it had only 40,000 effectives.

The San battle began on 16 May. Ivanov had been reinforced by 10 divisions, but was extremely short of munitions. Instead of bullets, Stavka sent warnings: "It is essential that measures be taken to limit the vast expenditure of rifle cartridges that has occurred in recent days. It is clear that this...stems in large part from the troops' negligence."

Despite the shortage of supplies, the defenders didn't lack for courage, and the 11th Army suffered considerable losses of its own. But Dimitriev's line was broken again on 19 May, this time beyond repair. Mackensen's advance continued, and Przemysl was retaken on 3 June.

That same day the Kaiser chaired a meeting at Pless between OHL and OberOst. For the past month H-L had been unhappily relegated to the sidelines, reduced to mounting a diversionary offensive into Courland while Falkenhayn presided over the destruction of Dimitriev's 3rd Army. But the very size of the Russian debacle reinforced their belief the war in the east could be won in 1915 — if only they were given enough resources to mount a major offensive from East Prussia toward Vilna and Minsk.

Whatever the true merits of their argument, OHL wasn't about to support any plan that placed OberOst back on top. The Kaiser sided with his chief of staff. Falkenhayn, satisfied "the threat to Hungary has been completely removed," wanted to end the campaign altogether. But he was forced by his success to continue Mackensen's push, adding another four and a half divisions from the west. Thus reinforced, 11th Army took Lemberg on 22 June, as Ivanov retreated behind the Bug River.

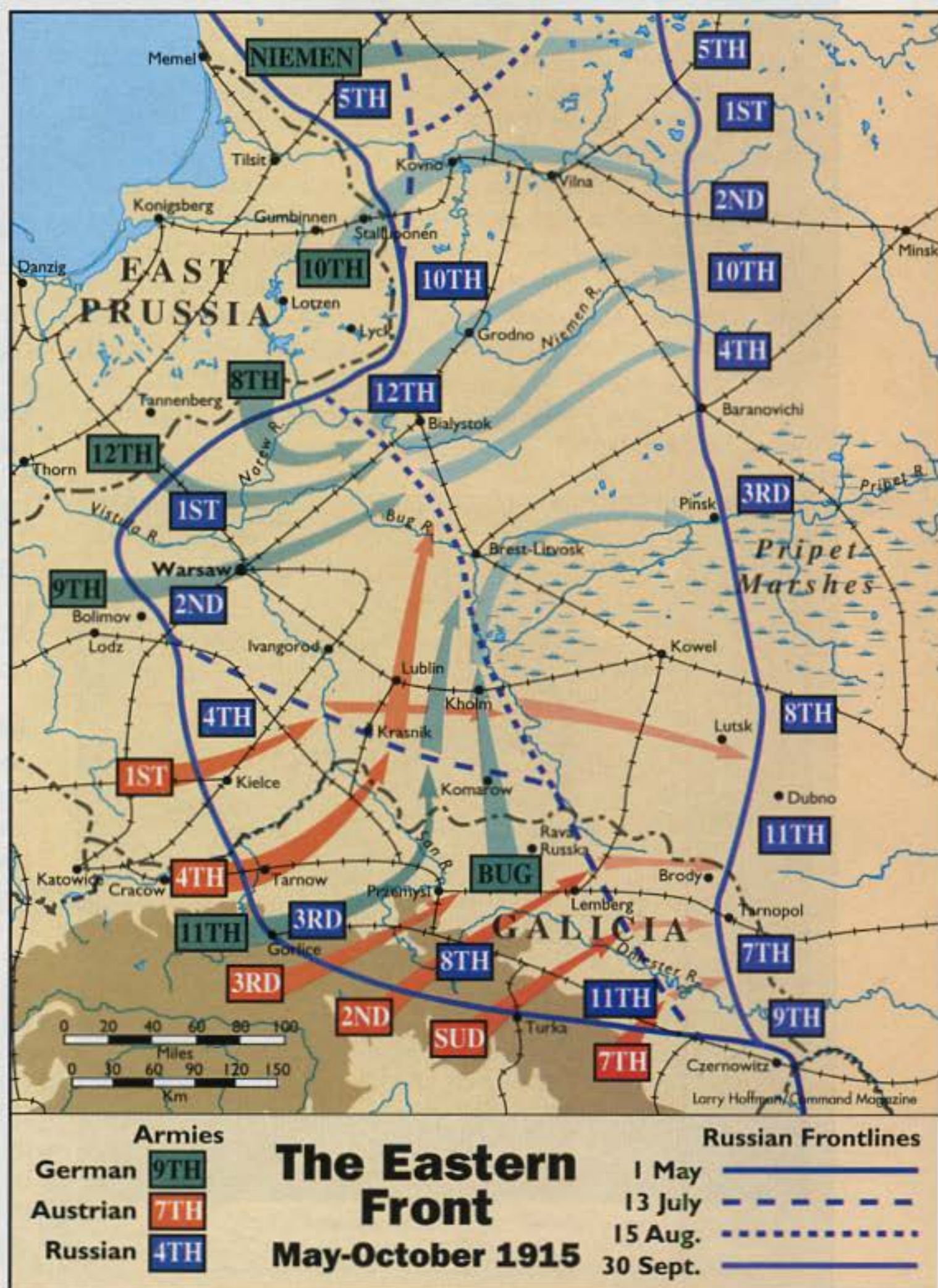
Another victory, another conference. The Kaiser, H-L and Falkenhayn reassembled at Posen on 1 July. OberOst again called for a grand envelopment of the Russian armies in the Polish salient.

Falkenhayn, increasingly worried about the British build-up in France, wanted to break off the attack.

Kaiser Wilhelm, unwilling to either end the offensive or back H-L, ordered a compromise that pleased no one. The 11th Army was directed to change its axis of advance from east to north, moving between the Vistula and the Bug toward Brest-Litovsk. H-L were given a new army (the 12th, under Gen. Max von Gallwitz), but aimed at Warsaw rather than Vilna.

As OberOst feared, this shallow envelopment defeated but failed to trap the Grand Duke's armies. Mackensen repeated his earlier tactic of massing heavy artillery at the point of attack (the "Mackensen Wedge") and blasted his way north, capturing Lublin and Kholm by the end of July. Gallwitz, his own guns directed by a formerly retired artillery genius named Georg von Bruchmüller, took Warsaw on 5 August, after three

(Continued on page 30)



“Some Damn Foolish Thing in the Balkans”

Bismarck's prediction about the cause of the next great European war came true in June 1914. For years both Conrad and the Austro-Hungarian Foreign Minister Count Berchtold had sought a pretext for crushing Serbia, whose pan-Slav ideology threatened the multi-ethnic Hapsburg state. The assassination of Archduke Ferdinand provided the excuse they had been seeking. But the Austro-Hungarians, hot for revenge, were soon handed a series of humiliating defeats by the small but tough Serb army.

Austria-Hungary's slow mobilization prevented Conrad from following the Kaiser's advice to take Belgrade before the Great Powers could react, and the expansion of the war to include Russia left the Austro-Hungarian southern forces initially outnumbered by the 500,000-man Serbian army.

The Serbian commander, a veteran of the recent Balkan wars, was Radomir Putnik. Confined by illness to a heated room, his knowledge of his homeland's terrain, his grasp of the capabilities of his troops, and his iron nerve proved more than a match for the inept Austro-Hungarian generals.

The first Austro-Hungarian offensive was launched in August, under the command of Gen. Potiorek. He had been in charge of security for the Archduke's visit to Sarajevo, and he brought that same level of skill to fighting the Serbs. The result was a 12-day campaign that saw the invaders pushed back over the Sava and Drina Rivers after losing 50,000 men. A second attempt to breach the Serbs' river line positions in September gained only two small bridgeheads.



The Serbian commander, Gen. Radomir Putnik.

In late November, a reinforced Potiorek launched his major effort. The Serbs were suffering a severe ammunition shortage, and at first the new attack was successful. Belgrade was captured on 2 December, and Putnik withdrew his forces into the hills south of the capital. The Austro-Hungarians followed, but a swift Serb counterattack sent them reeling back, and Belgrade was retaken on 16 December. This fiasco (which finally cost Potiorek his command) was followed by a nine-month stalemate (see the Medical Department article).

Following the conquest of Russian Poland in the summer of 1915, Falkenhayn decided it was time to deal with the Serbs once and for all to open rail communications with the Turks. Serbia's survival depended on the neutrality of Bulgaria, since an attack from that quarter would leave the Serbs surrounded on three sides. But the Bulgarian monarch, Czar Ferdinand, had suffered defeat at Serbian hands in the Second Balkan War and was eager to even the score. On 6 September 1915, Bulgaria secretly joined the Central Powers, and on 21 September they began to mobilize.

Meanwhile, Falkenhayn had transferred Mackensen's 11th Army to the Serbian Front, where it joined the Austrian 3rd Army and the Bulgarian 1st Army in attacking the main Serb positions around Belgrade. With Putnik's forces fully engaged, the Bulgarian 2nd Army was set in motion against the long and undefended Serb right flank.

Serbia was doomed unless the Allies could come to her aid. The French, with reluctant British support, convinced pro-Allied Prime Minister Venizelos of Greece to allow the landing of an expeditionary force (initially made up of three divisions evacuated from Gallipoli) on 3 October. Only hours before this force, led by French Gen. Maurice Sarrail, disembarked at Salonika, Greece's pro-German king forced Venizelos to resign, leaving the Allies in the anomalous position of occupying part of a still neutral country.

When it became clear the Greek army planned no action to eject the Allies from Salonika, Sarrail hurried north into Macedonia, only to be blocked by the arrival of the Bulgarians. The Serbs, who had been forced to abandon Belgrade on 9 October, were now trapped. Rather than surrender, they set out across the mountains of Albania to the Adriatic coast, where 140,000 pitiful survivors, half-starved and dressed in rags, were evacuated by the French and Italian fleets. That left Serbia's smaller ally, Montenegro, to surrender to the Austro-Hungarians on 17 January 1916.

The Allied beachhead at Salonika then became something of an embarrassment, with the Germans referring to it in their propaganda as the world's "largest self-sustaining POW camp." But by July 1916, Sarrail's army had been reinforced to a strength of 250,000, consisting of five British and four French divisions, a corps-sized Italian division, a Russian brigade, and 6 rebuilt Serb divisions.

In September, Sarrail at last began an offensive designed to relieve the pressure on the Romanians, who had joined the Allies that August. Though Sarrail's Serb divisions broke the Bulgarian lines at Monastir on 19 November, two *ad hoc* German units quickly plugged the gap, and the attack stalled.



French Gen. Sarrail, Allied commander on the Salonika front.

It was too little and too late to help Romania. In September they had attacked into Austro-Hungarian Transylvania with two of their four armies. A mixed force

of Austro-Hungarians and Germans (under the overall command of the newly demoted Falkenhayn) first halted the Romanian invasion, then drove them back through the passes of the Transylvanian Alps onto the plains beyond. A second army (largely made up of Bulgars and Turks) under Mackensen attacked north from Bulgaria toward Constanza and Bucharest, threatening to slam the door on the retreating Romanians. Bucharest fell on 6 December, and the surviving Romanians retreated to join the Russian Dobruja Corps behind the River Sereth.

In June 1917, the Allies at last took the Greek bull by the horns, forced the king to leave the country and reinstated Venizelos as prime minister. On 29 June, Greece formally joined the Allies. The Allied position was then further improved in December, when Sarrail was replaced, first by Gen. Guillaumat, and then in July 1918 by Franchet d'Esperey.

D'Esperey's *Army of the Orient* attacked in September 1918. With news of the German reversals in France, the morale of Berlin's allies had collapsed, and d'Esperey quickly shattered the Bulgarian lines. News of this Allied victory contributed to Ludendorff's nervous breakdown on 28 September, thus indirectly hastening the end of the war. On 30 September, Bulgaria signed an armistice, and by 10 November the Allies were over the Danube in Romania.

For both the Allies and the Central Powers, the Balkan Front represented a drain on manpower and resources that could have been better used elsewhere. In many ways the Allied Salonika expedition resembles the campaign that would be fought in Italy during the Second World War. In both cases an attempt to defeat Germany with a Mediterranean strategy resulted only in a prolonged and bloody stalemate.





A German infantry column advancing through Russian Poland.

(Continued from page 27)

weeks of hard fighting. That same day Ivanov abandoned the fortress of Ivangorod, beginning a general Russian withdrawal from Poland.

This "Great Retreat" continued well into September. Hoffmann was astounded by the enemy's "scorched earth" methods: "The Russian high command apparently had 1812 on their minds during this retreat; they not only destroyed all communications, but they also burned towns and villages and drove the people away...with the retreating army. They seemed to believe that in this way they would cause us more than temporary difficulties, otherwise their conduct would have been useless cruelty toward their own people."

Stavka's deliberate creation of millions of refugees actually aided the invaders. Not only was OberOst freed of the burdens of feeding and watching over a hostile population, the flood of displaced persons throughout western Russia lowered morale and spread defeatism.

But the decision to abandon Poland saved the Russian army. Though 100,000 men were lost in a doomed effort to hold the great fortress of Novo-Georgievsk, Alekseev skillfully extricated the remainder of his command. In early September, with the Russians slipping rapidly out of reach, H-L were at last allowed to attempt their Vilna gambit. Eichhorn's 10th Army captured the city in mid-month, and managed to get several cavalry divisions across the Russian line of retreat, but their numbers were too few and *Northwest Front* broke free. To the south, Ivanov also made good his escape, easily thwarting two Austro-Hungarian offensives in September and October.

On 8 September, after the fall of Brest-Litovsk, Grand Duke Nicholas was relieved of his command, and sent to fight the Turks in the Caucasus.

His place was taken by Czar Nicholas II (with Alekseev as chief of staff). "In military matters he [the Czar] could be regarded as a mere child," Gen. Brusilov wrote. "The people who failed to prevent Nicholas II...from assuming the supreme command were no better than criminals."

At the end of September, the eastern front ran in an almost straight line for over 400 miles, from Czernowitz north to Dvinsk (which remained in Russian hands), before bending to follow the Dvina River northwest to Riga. Except in Galicia, the Russians were defending everywhere on their own soil.

This was enough for Falkenhayn, who was confident he had permanently crippled the Czar's armies. OHL withdrew Mackensen's army for a new campaign against Serbia, and began shipping divisions back to France for eventual commitment at Verdun. H-L were thus left with a reduced force to hold a much longer front, running from the Baltic to the Pripyat Marshes.

Falkenhayn's supporters proclaimed the summer offensive a feat of arms unmatched throughout military history, but Ludendorff remained bitter: "Twice the chance to hit the Russians decisively had been denied to us!"

Hoffmann perhaps best summed up the black mood at OberOst as they settled unhappily into their new defensive role: "Things now are more negative. I don't want to do any more than prevent the enemy from doing something to me."

Brusilov's Offensive

By the autumn of 1915, the prospect the Czar's armies might succeed in accomplishing anything significant against the Central Powers seemed remote. From May to September, losses had averaged 255,000 a month. The great chain of fortifica-

tions designed to protect western Russia had been overrun. The Russian Empire, Falkenhayn told the Kaiser in December, was "shattered."

But that proved a premature judgment. Now the Russians demonstrated the resiliency they would show again in World War II. There were many reasons for their remarkable recovery in the winter of 1915-16. One was the all too brief tenure of Aleksai Polivanov as minister of war. Before his dismissal for having offended Rasputin, the energetic Polivanov instituted a new system of recruitment that raised two million more men. Unlike earlier replacements, these *Polivanovtsii* were well-trained, disciplined and highly motivated.

Along with this infusion of skilled manpower, the Russian army at last began to receive weapons and munitions in something approaching adequate numbers. Russia's factories, which had produced the ludicrous total of 41 rifles from January to July 1914, now turned out over 100,000, along with 125 million cartridges, each month. Shell deliveries rose from 12.5 million in 1915 to 33 million the next year. Production of artillery increased seven-fold.

As with lend-lease 25 years later, shipments from Allied and neutral countries played an important part in supplying the Czar's armies. Rifles, cartridges, and cannon arrived through the ports of Vladivostok and Archangel, though distance and transportation bottlenecks resulted in long delays in getting them to the front. (The Russians paid a heavy price for the Allied failure at Gallipoli to open the sea route to Odessa.)

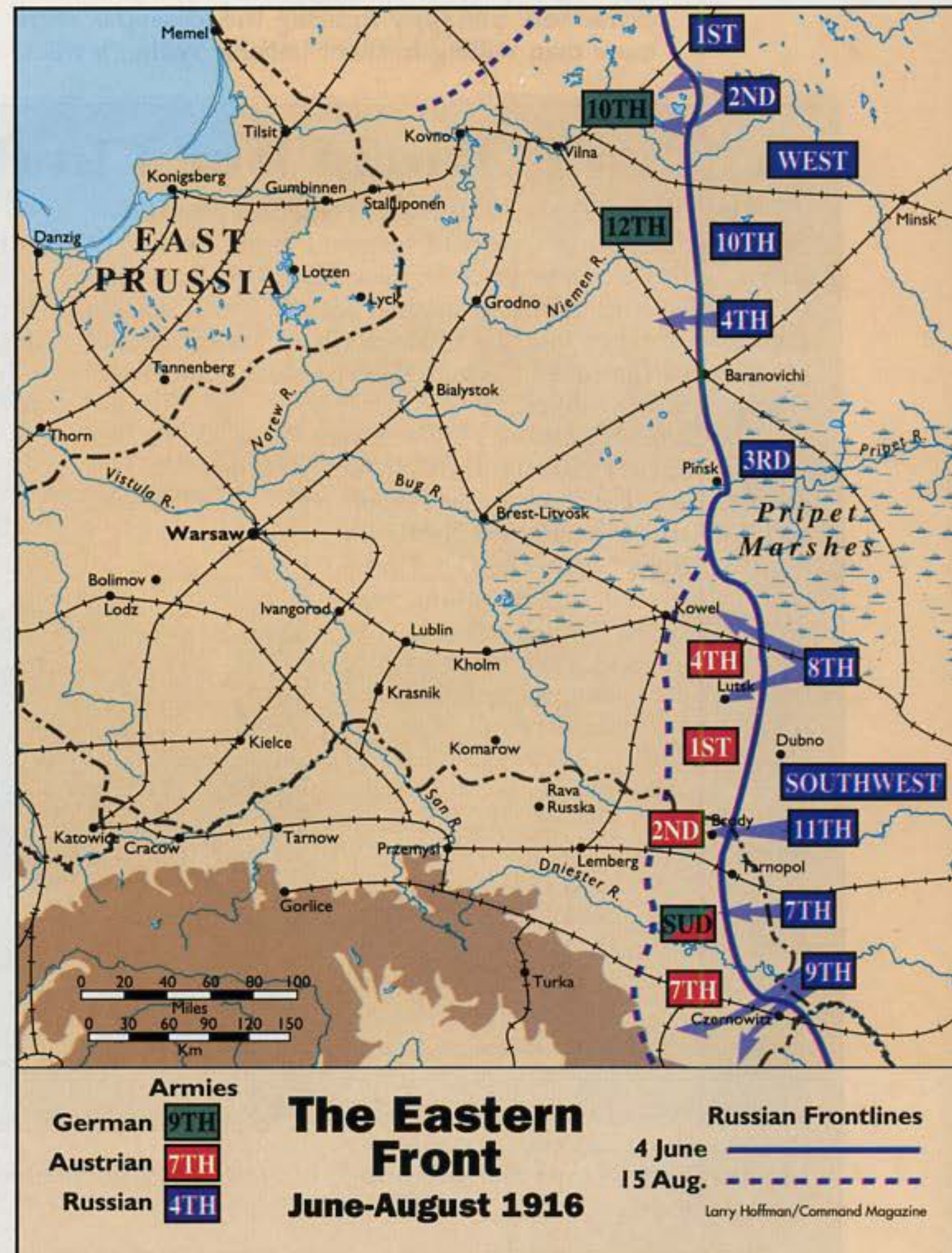
Following the "Great Retreat," *Stavka* reorganized its forces into three army groups: the *Northwest Front* from Riga to Dunaburg, the new *Western Front* south to the Pripyat Marshes, and the *Southwest Front* holding the line against the Austro-Hungarians to the Romanian border. Command of the *Northwest Front* was given to Gen. Kuropotkin, who had lost the earlier war with Japan, but not his influence at court. The *Western Front* went to Evert, former commander of Ivanov's 4th Army, who soon showed he had been promoted beyond his abilities. *Stavka's* one inspired choice was its replacement of Ivanov with his brilliant subordinate, Gen. Aleksei Brusilov.

Alekseev had hoped to use the spring of 1916 to complete rebuilding his armies. But the French, caught in the meatgrinder of Verdun, appealed to the Czar to attack. Nicholas agreed, and in March the Russians launched an offensive against the German 10th Army near Lake Naroc.

Stavka intended a coordinated assault by Kuropotkin's left and Evert's right aimed at Vilna, but Kuropotkin's attack never got off the ground, leaving Evert's 2nd Army to carry the burden alone. Still, the attackers initially outnumbered the defenders 350,000 to 75,000, and *Stavka* concentrated over 1,000 guns to support the offensive. Masses of cavalry were also gathered to exploit the expected breakthrough.

The battle began on 18 March, with a two day artillery barrage. Badly directed, it had little effect on the well-entrenched Germans. An early thaw turned the battlefield into a swamp, forcing the Russian soldiers to advance through icy water up to their knees. The 2nd Army's commander, Gen. Smirnov, was incompetent, as were several of the corps commanders. The resulting mess cost the Russians another 100,000 casualties before the offensive petered out at the end of the month. German losses were 20,000. What little ground 10th Army lost, it soon recaptured.

Evert had attacked with an advantage in numbers and artillery greater than Mackensen's at Gorlice-Tarnow. Failure convinced him the Germans were invulnerable on the defense, and made him extremely reluctant to conduct any future offensives. This timidity, which was shared by Kuropotkin, virtually immobilized the Russian armies north of the Pripyat for the remainder of the war.



Gen. Brusilov drew a different lesson from the Lake Naroc debacle. He believed it showed numerical superiority could never compensate for the absence of surprise. Instead of massing against a narrow part of the enemy line, he called for simultaneous offensives along the entire front. By dispersing his reserves, he hoped to leave the enemy uncertain of his intentions and thus prevent them from concentrating their own reserves against any single point of attack.

In April, Brusilov presented his ideas at a council of war attended by the Czar, Alekseev, and the other front commanders. He argued the Austro-Hungarian armies facing his *Southwest Front* were ripe for defeat. A skeptical Alekseev gave permission for Brusilov to prepare his attack, but postponed a final decision.

As they had in March, events in other theaters forced Alekseev's hand. In May, Conrad (without informing Falkenhayn) had withdrawn nine of his best divisions from Galicia for a new offensive against Italy. Austro-Hungarian soldiers of Slavic extraction, unhappy fighting the Russians, were more than willing to shoot Italians. Within a week,

Conrad seemed on the verge of a breakthrough, and the Italians were pleading with *Stavka* for help.

After Evert stated that his armies were unprepared to attack, Alekseev turned to Brusilov, who said he would be ready to strike in seven days. Alekseev warned him not to expect reinforcements, but promised that within two weeks Evert would begin a "general offensive" north of the Pripyat against the Germans.

Brusilov intended his main effort to be made by Gen. Kaledin's *8th Army* opposite Lutsk, but also prepared attacks at 20 other places along a 200-mile front. Scout planes had photographed every mile of the front, and for six weeks Brusilov had drilled his soldiers for the coming battle using full-size mock-ups of the Austro-Hungarian trenches. Russian artillery, restricted prior to the battle to firing only ranging shots, were zeroed-in on key enemy positions. The Russians dug trenches under their own wire to within 75 yards of the Austro-Hungarian line.

The *Southwest Front* had only a slight edge in manpower (40 divisions to 38, though the Russian divisions were larger). From south to north Bru-

World War I in the Caucasus

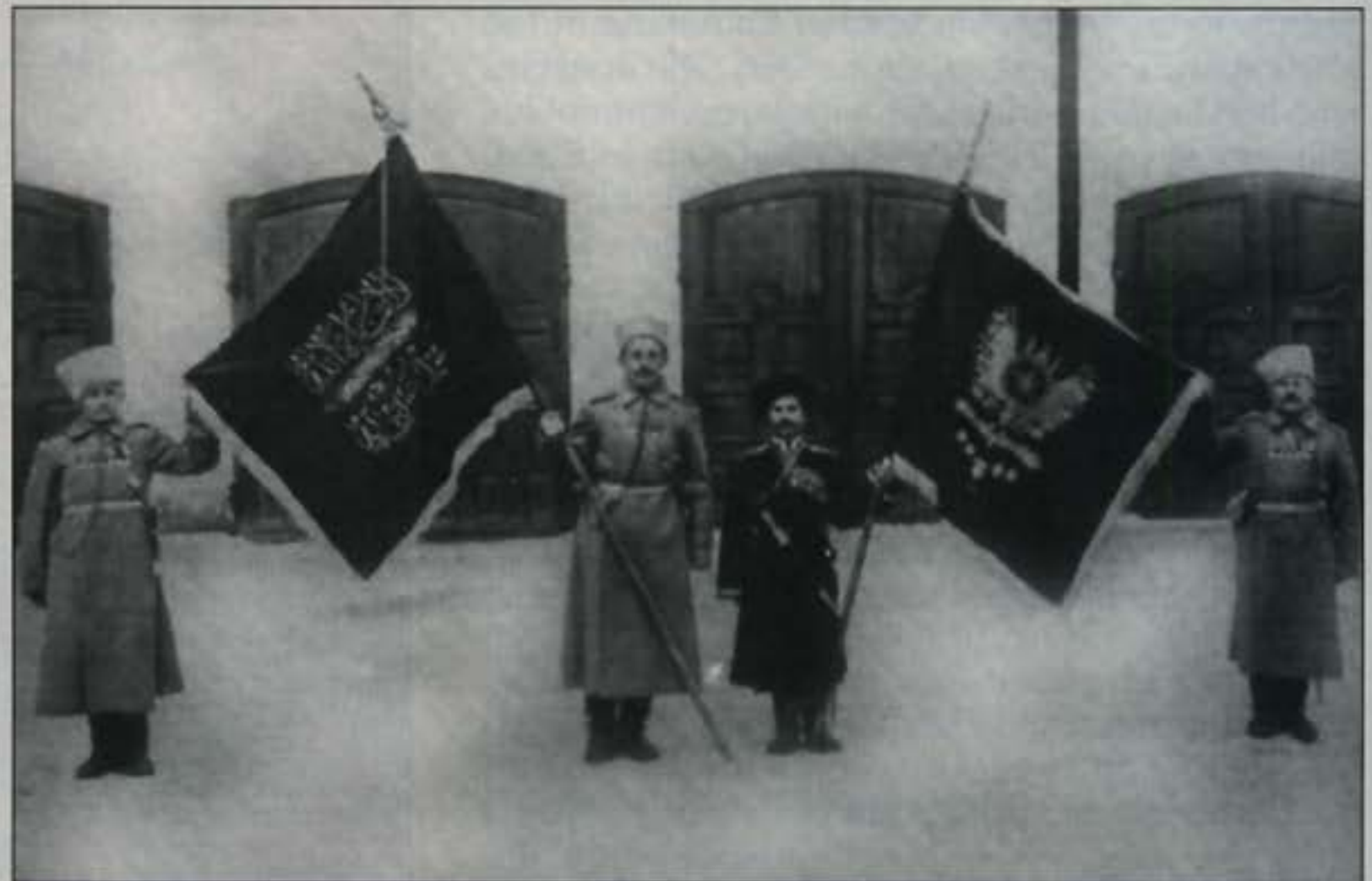
The "Young Turks," the band of political thugs who ruled the decaying Ottoman Empire, signed a secret treaty with Germany on 2 August 1914, the day after Berlin's declaration of war against Russia. But it wasn't until late October that the Turks actually began hostilities, when a combined German-Turkish fleet bombarded Odessa and Sevastopol.

The Turkish minister of war, Enver Pasha, was a fop without military skills, though he liked to be called "the Little Napoleon." With Bulgaria and Romania neutral, the only place the Turks could confront the Russians was along their mutual border in the Caucasus. Though winter is hardly the best time to campaign in the most rugged mountain range in Europe, Enver personally led the Turkish 3rd Army against the Russians there, consisting of *I Caucasus* and *II Turkistan Corps*.

His plan was to pin the enemy in front with an attack by his XI Corps, while his IX and X Corps struck the Russian flanks. Besides ignoring such factors as weather, terrain, and his own lack of supply, Enver assumed the Russians would sit still and allow themselves to be encircled. Instead they counterattacked, completely annihilating IX Corps and capturing its commander.

With his offensive plans in ruins, Enver ordered a retreat, then abandoned the army to return to Constantinople. The 3rd Army was nearly destroyed, reduced from 90,000 men to fewer than 15,000. Thousands of Turks froze to death in the icy mountains, while others died from hunger. It was an inglorious end to "Little Napoleon's" plans for conquest.

Fortunately for the Turks, the Russians couldn't



Hollow Victory: Russian soldiers proudly display Turkish battle flags taken in the Caucasus.

silov's four armies (9th, 7th, 11th and 8th) faced five enemy armies (7th, the Austro-German South Army, 2nd, 1st and 4th). The Austro-Hungarians retained a three-to-one advantage in heavy artillery, but their morale was low and their commanders were completely unprepared for what was about to happen.

The Brusilov Offensive began on 4 June, with a furious bombardment of the Austro-Hungarian trenches. In the predawn of 5 June, the guns fell silent and the Russian soldiers swept forward. Thousands of Austro-Hungarian conscripts threw down their rifles and fled. Tens of thousands more gave themselves up to the advancing attackers. In six days the *Southwest Front* collected over 200,000 prisoners.

From the Caucasus, Grand Duke Nicholas telegraphed Brusilov: "I congratulate, kiss, embrace and bless you." But the Czar sent only a few uninspired words of thanks.

The Austro-Hungarian 4th and 7th Armies were routed. With both flanks broken, the center, held together by the presence of a few German divisions, was threatened with encirclement.

Ludendorff summarized: "The Austrians had shown such small powers of resistance that at one blow the whole eastern front was in dire jeopardy."

Kaladin's 8th Army had gone 50 miles toward Kowel. At the other end of the front, Lechitski's 9th Army had advanced 30 miles, once more capturing Czernowitz. But by 10 June the attackers' initial impetus was spent. Though the enemy's losses were far greater, Russian losses were not light (the 8th Army alone had suffered nearly 40,000 casualties), and the troops were exhausted. Reluctantly, Brusilov called a halt to regroup.

The ultimate success of Brusilov's drive depended on Evert's pinning the Germans so they would be unable to shore up the Austro-Hungarians. Evert had grudgingly agreed to attack on 9 June, but soon found numerous reasons for delay. Both the Czar and Alekseev lacked the will to either replace Evert or force him into action. The assault, when it finally took place on 3 July, was anti-climactic. Ignoring Brusilov's new tactics, Evert ordered a mass attack on a narrow front at Baranovichi. He lost 80,000 men before ending the battle and lapsing back into inactivity.

spare the men or resources to follow up their victory properly. By the spring of 1915, the 3rd Army had been reformed, and the Turks opened a new offensive. Once again their drive soon ground to a halt and the Russians counterattacked. By September, when Grand Duke Nicholas arrived to take command, his able subordinate Gen. Yudenich had pushed the Turks back some 30 miles beyond their border.

Yudenich renewed his push in January 1916, and by July had taken the Turkish fortresses at Erzerum, Trebizond and Erzingian, clearing the enemy out of almost all of Armenia (and putting a stop to the infamous Turkish campaign of genocide). Also in 1916, at the

request of the British, whose troops were fighting the Turks at Kut al Imara, the Russian Gen. Baratov marched a corps across Persia to threaten Baghdad. Baratov soon had to retreat, but the move did force the Turks to divert a corps from their 6th Army at Kut.

Despite these victories, the Russians were never able to win a decisive victory over the Turks, and a series of indecisive clashes continued into 1917. The collapse of both the Russian and Turkish Empires at the end of the war allowed the various nationalities throughout the region to slide back into their traditional state of chaotic communal warfare, which was only brought to a halt by the Red Army after the Russian Civil War.



Russian officers examine the guns and emplacements around the captured Turkish port of Trebizond. Taken on 18 April 1916, it was to have served as a base for a future drive on Constantinople.

Kuropotkin, whose *Northwest Front* outnumbered the Germans along the Dvina River by two to one, never attacked at all. Instead, he bombarded *Stavka* with messages demanding additional reinforcements, while in the entire area north of the Pripyat, Ludendorff's only reserve amounted to one cavalry brigade.

Brusilov was left on his own, with no help from any of his neighbors. After fending off counterattacks against the *8th Army* on 16 June, he struck again in early July. Lechitski brushed aside the remnants of the Austro-Hungarian 7th Army and occupied most of Bukovina. The *11th Army* took Brody, forcing the South Army to pull back to a new position 30 miles east of Lemberg. Kaladin (supported by *3rd Army*) reached the Stokhod River, and only the timely arrival of two German

divisions kept the Russians from breaching that line and taking Kowel.

Since word of the Austro-Hungarian collapse had reached OHL, Falkenhayn had been scrambling desperately to stem the Russian tide. He had few troops available. On the western front the battle of attrition at Verdun had turned against the Germans, and the British were preparing a major offensive on the Somme. But recognizing the greater danger lay in the east, OHL ordered seven divisions from France to Galicia. OberOst, its area of command now extended south to include most of the Austro-Hungarian front, sent all its limited reserves to block the expected Russian attack along the Stokhod.

After Evert's failure at Baranovichi, Alekseev had begun transferring units from his northern

Max Hoffmann

Phantom Genius of Germany's Eastern Front, 1914-1918

Carl Adolf Maximilian ("Max") Hoffmann (1869-1927) was the paramount German staff member on the team directing operations in the Great War's eastern theater. He was the shadow architect of the victory over the Russians in 1914 at Tannenberg in East Prussia, *de facto* commander at the Masurian Lakes and Riga offensives, and the preeminent German military negotiator at

Brest-Litovsk in 1918, only nominally secondary to the foreign office delegate.

But Hoffmann's name is usually omitted from the list Germany's great 20th-century war leaders because his agile mind and acerbic wit would not abide fools gladly. He could not curb his tongue, no matter how powerful the blockhead in his sights. The favor of influential patrons was sorely tested by his insolence. He also served in a secondary theater, always under either a celebrated war hero — such as Hindenburg and Ludendorff — or royalty. Thus he was destined to suffer relative anonymity while his more distinguished chiefs reaped the credit for his strategic shrewdness.

Photographs of Hoffmann at his apex, around 1917, personify a stereotypic Prussian officer: arrogant mien, sheared rectangular head fusing with a stout frame. But Hessian by birth, he was not heir to any family warrior tradition, his father having been a provincial court judge.

Hoffmann was enrolled at the *Kriegsschule* in his youth, and after serving a term as adjutant in an infantry regiment, he was selected to attend the *Kriegsakademie* at Torgau. There he quickly became conspicuous for his brilliant mind and intuitive grasp of practical solutions to assigned map problems. He intimidated and infuriated his professors with his caustic wit, but they could never impugn his instinctive grasp of the correct solutions.

Disdaining physical exercise, swordsmanship, horsemanship and military drill, Hoffmann preferred the pleasures of wine, merriment and rich food. Though athletic vigor and military bearing didn't attain the status conferred on it by the British army of the period, the German armed forces set a high store on such qualities. The fact that despite his indifference to soldierly deportment Hoffmann was considered one of the bright lights of his class says much for his natural aptitude.

Easily surpassing his struggling classmates, Hoffmann was selected for a plum six-month stint in Russia



Max Hoffmann

armies to reinforce Brusilov. The limited Russian rail net made it difficult to shift forces south of the Pripyat, and it was late July before Brusilov was able to resume the thrust toward Kowel. This time there was no surprise, and the 8th Army's attack was repulsed.

On Kaladin's right, Alekseev committed the cream of the Russian army, the 65,000-man *Guards Army*, command by Gen. Bezobrazov, a court favorite. Attacking through waist-deep swamps along the Stokhod, the *Guards* were mercilessly strafed by German aircraft. Bezobrazov, described by Brusilov as "incredibly narrow minded and obstinate," lost 50,000 men in two weeks.

Elsewhere the 9th Army reached the Carpathians, but lacked the strength to break through to the Hungarian plain. Brusilov continued to attack

in August and September, but with steadily diminishing returns. By October, when the campaign finally ended, the *Southwest Front* had lost over a million men. The *Polivanovtsii* were gone, and their replacements were again men short of training, rifles, ammunition and hope.

The Brusilov Offensive had brought both the Hapsburg and Romanov monarchies to the edge of the abyss. Austria-Hungary had lost 600,000 men, about 400,000 of them prisoners. The Czechs went into open revolt, and even the Hungarians were looking past the end of the Dual-Monarchy to independence as a Magyar state. In November, a dejected Emperor Franz Joseph died, ending a reign that had begun in the revolutionary year 1848. His successor, Emperor Charles, was soon engaged in secret and ultimately fruitless negotiations for a

in 1898-99, where he gained great insight into the Russian military character. Upon his return he was assigned to the Russian Section of the General Staff. His star continued to rise when he was selected to serve as a military observer with the Japanese forces in the Russo-Japanese War of 1904-05.

His duties as military attache in that war allowed him to observe the combat operations of the Czarist army from the business end of the gun barrel. Accordingly, he was next assigned to the position of operations chief of the 8th Army, under Gen. Max von Prittwitz, and charged with defending Germany's eastern frontier. In his new job, Hoffmann was responsible for intelligence, plans and operations. While his experience and talent made him an indispensable member of the 8th Army's directorate, his short fuse did not make for harmonious relations with his chiefs. His role in the Tannenberg victory and his planning and staff work for the February 1915 Masurian Lakes campaign brought Hoffmann the Iron Cross First Class, won, as he said, "by sitting at the telephone."

In assessing the Hindenburg-Ludendorff-Hoffmann team, it is apparent Hindenburg provided the social front and balance, Ludendorff the driving energy and organizing ability, and Hoffmann the fertility of ideas and forthright sense of reality. Hoffmann soon emerged as the shadow strategist of the east, recognized by both superiors and subordinates as the brains of the theater. Throughout the last half of 1916, he worked to guard the German position in Poland against Russian attacks. When the H-L team was promoted to overall command in August 1916, Hoffmann was promoted to colonel and appointed chief of staff to the new overall commander in the east, Field Marshal Prince Leopold of Bavaria.

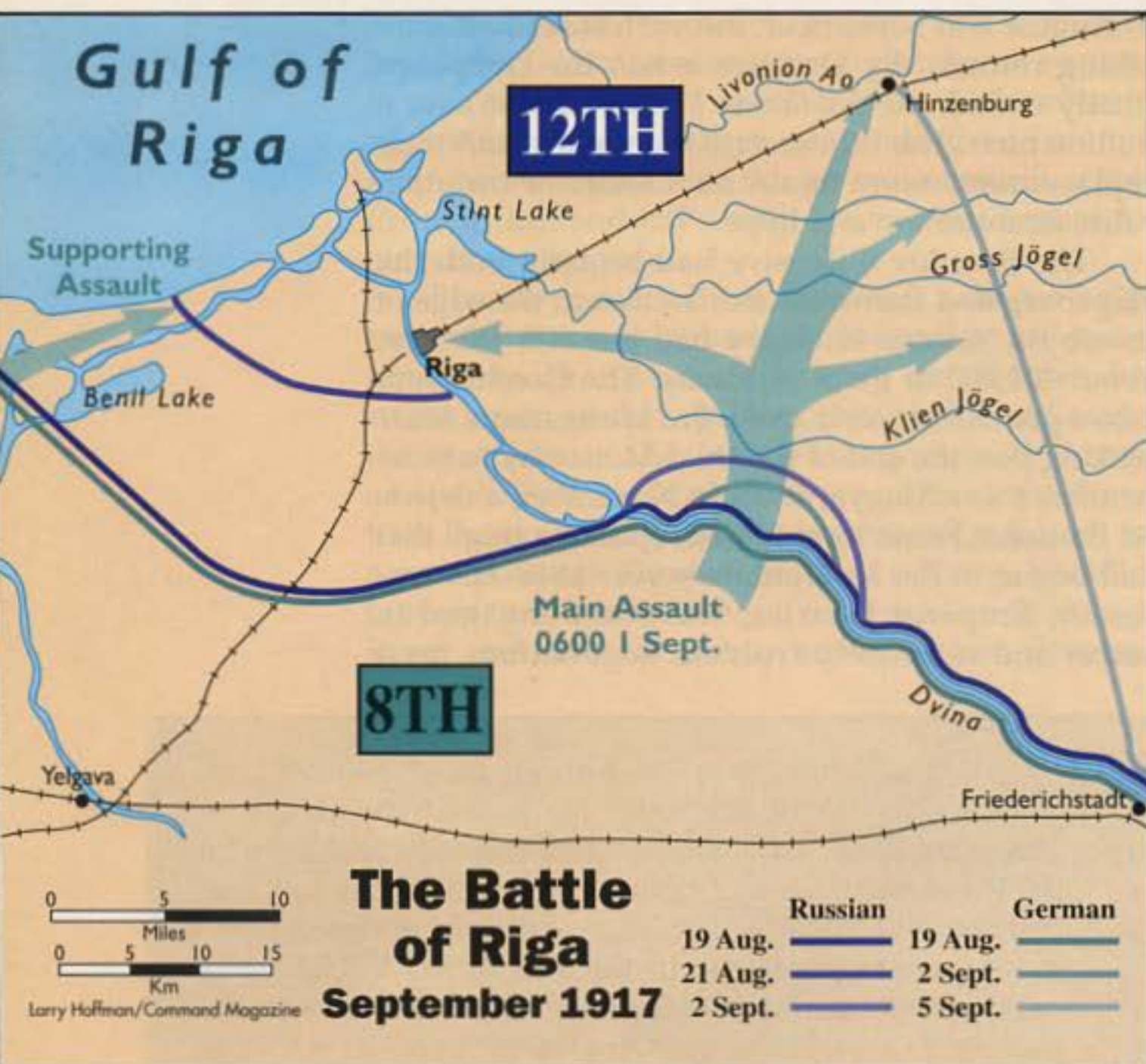
Speculation as to why Hoffmann's obvious talents weren't utilized by H-L on the western front leads to the conclusion he was recognized as being indispensable against the Russians. It is also probable his fiery temperament put off Ludendorff and Hindenburg, who wanted more compliant team members to help coordinate the major effort.

Hoffmann became the hidden hand behind Leopold's success in the east. He halted the Brusilov Offensive, directed the follow-on counterattack against the Russians in Galicia, defeated them near Zloczov, and orchestrated the attack on Riga and the associated Baltic amphibious operations in the Fall of 1917. After thus neutralizing the threat to the eastern frontiers, repeatedly pulling Austro-Hungarian chestnuts from the fire, and squeezing the Russians back into their own strategic core area, Hoffmann was promoted to major general.

In December 1917, Hoffmann concluded an armistice with the Bolsheviks, representing the H-L team at the peace talks in Brest-Litovsk. He favored a relatively hard peace entailing considerable Russian territorial concessions, yet had a knack for sensing what was possible and commensurate with German security needs rather than dreams of empire. But when Trotsky tried his "no war-no peace" ploy (that is, stonewalling), Hoffmann, in February 1918, sent 53 divisions against a disorderly, demobilizing Russian army, in rapid succession taking Dunaberg, Pskov and Kiev. Trotsky was sent scurrying back to Brest-Litovsk to sue for peace on German terms. After the German collapse in the west, Hoffmann still managed to see to it that all German troops were withdrawn from Russia in good order, in spite of the rising anarchism in many units.

As anti-Bolshevik as any in the German officer corps, after the war Hoffmann believed the predominant threat to his country came from Communist revolutionary fervor. He came to favor rapprochement and economic cooperation with France in order to be able to present a united front to counterattack and overthrow the Moscow regime. For a time he collaborated with Arnold Rechberg, a prominent industrialist, in a plan to restore the Hohenzollern monarchy and embark on a military expedition aimed at unseating Lenin and company. All that, of course, came to nothing, and Hoffmann died in July 1927, the forgotten maestro of sparkling feats of maneuver in a war otherwise characterized by pulverizing slugfests.

by Jim Bloom



separate peace. In truth, after Brusilov's campaign only German power held Austria-Hungary together, and Charles couldn't free himself from that embrace.

Unlike the Hapsburgs, the Romanovs had no one to prop up their dynasty's sagging fortunes. Russia's one new ally proved a liability, not an asset. At the end of August, Romania, misreading the scope of Brusilov's success, declared war on the Central Powers. Russian hopes for support from Romania's comic-opera army were soon dashed. Two armies, composed mostly of Austrians and Bulgarians, but commanded by Mackensen and Falkenhayn, overran Romania in less than four months.

Hoffmann Takes the Lead

Falkenhayn had been removed as chief-of-staff in August 1916, another victim of Brusilov's surprise attack. He was replaced by Hindenburg, with Ludendorff as "First Quartermaster-General," an entirely new position that in effect allowed him to run the war. Hoffmann took over the eastern front, under the figurehead of Prince Leopold of Bavaria. Conrad retained his post until February 1917, but was rendered nearly powerless by the integration of Austria-Hungary's armies into OberOst's command.

For two years H-L had insisted the war could only be won in the east, but now installed at OHL they changed their mind, giving priority to the fighting elsewhere. It wasn't that they had changed their opinion, but during the second half

of 1916, the eastern front was practically the only area not entering a crisis for the Germans. The British attack on the Somme and the French counterattack at Verdun were having terrible effects on the German army. As Ludendorff admitted, it was only then he "fully realized all that the western armies had done hitherto." Hoffmann, lacking adequate resources to conduct major operations, had little to do but watch the Russian Empire implode.

That tragedy gained momentum throughout the fall and winter. Everyone but the Czar knew the end was coming. When the British ambassador tried to warn Nicholas something had to be done, the monarch replied: "Do you mean that I am to regain the confidence of my people, or that they are to regain my confidence?"

The murder of Rasputin in December 1916 was followed by food riots in Petrograd in March 1917. Nicholas ordered the mob put down, but the troops in the capital went over to the rioters or stayed in their barracks. Within days the Czar was forced to abdicate and a 300-year-old dynasty came to its end.

The new "Provisional Government," dominated by Alexander Kerensky, proved unable to bring order out of chaos. Kerensky pledged to continue the war, which was a dire misreading of the national mood that Lenin was later to exploit.

Watching all this, Hoffmann wanted to attack: "The idea naturally occurred that it would be a good thing to accelerate the collapse of the Russian army by a few strong thrusts...However, I had not the necessary means to do so." Ludendorff's attention remained focused on the west, while the German Foreign Office worked to conclude a separate peace with Kerensky, an idea Hoffmann believed was delusional: "Owing to our inactivity, Kerensky was able to carry away the [Russian] army with his persuasive eloquence and induce them to continue the struggle, and thus hold 80 German divisions on the eastern front during the whole summer of 1917."

In fact, Kerensky's skills as an orator kept enough troops in the line to enable Brusilov (now commander-in-chief) to undertake a final offensive in July 1917. Forty-five Russian divisions attacked a smaller mixed force of Austrians, Germans and Turks on a 40-mile front along the Dniester River. Once again the Austro-Hungarians broke, and the attackers advanced 20 miles. It was Russia's last victory of the war.

Hoffmann had been expecting the attack, and had gathered reserves to counter it. On 19 July he struck back, and the "Kerensky Offensive" collapsed. Within days the Russian armies in Galicia began to melt away, entire divisions abandoning the war to begin the long trek back to their homes. The defeated Brusilov was replaced by Gen. Lavr Kornilov, a daring Cossack with a fondness for intrigue.

In September, Hoffmann, impatient to bring events in the east to a head, authorized Gen. Oskar von Hutier's 8th Army to attack at Riga. Hutier had closely studied Brusilov's tactics and further refined them. With the help of the artilleryist Bruchmüller, he launched a surprise attack preceded by a brief but intense "hurricane" bombardment. Small groups of specially-trained shock troops led the assault, bypassing and cutting off Russian strong points. (These tactics, the fruition of two years' experiments in the western trenches, later formed the basis for the German 1918 "Kaiser's Battle" offensives in France.)

The Battle of Riga was, Hoffmann wrote, "almost ridiculously easy." The Russians were soon in full retreat. "The army was very enthusiastic and wanted to...continue the offensive as far as Petrograd...this unfortunately was not possible." Ludendorff, who required troops on other fronts, halted the advance.

Kornilov, however, did march on Petrograd. The "Kornilov Affair" was caused by the mutual suspicions of Kerensky and his commander-in-chief. Each believed the other was plotting his removal. To block Kornilov, Kerensky was forced to ally himself with the Bolsheviks, freeing those who had been imprisoned and allowing their other leaders to come out of hiding. Six weeks later the Provisional Government was itself overthrown and Lenin came to power.

Hoffmann opened one last offensive in February 1918, when the Bolsheviks tried to refuse Ludendorff's harsh peace terms. Oberost attacked with 53 divisions toward Petrograd, Moscow and Kiev. There was virtually no resistance. Dvinsk fell in one day. "This beast leaps fast!" Lenin exclaimed. The Bolsheviks rushed to sign the Treaty of Brest-Litovsk, taking Russia out of the war for good.

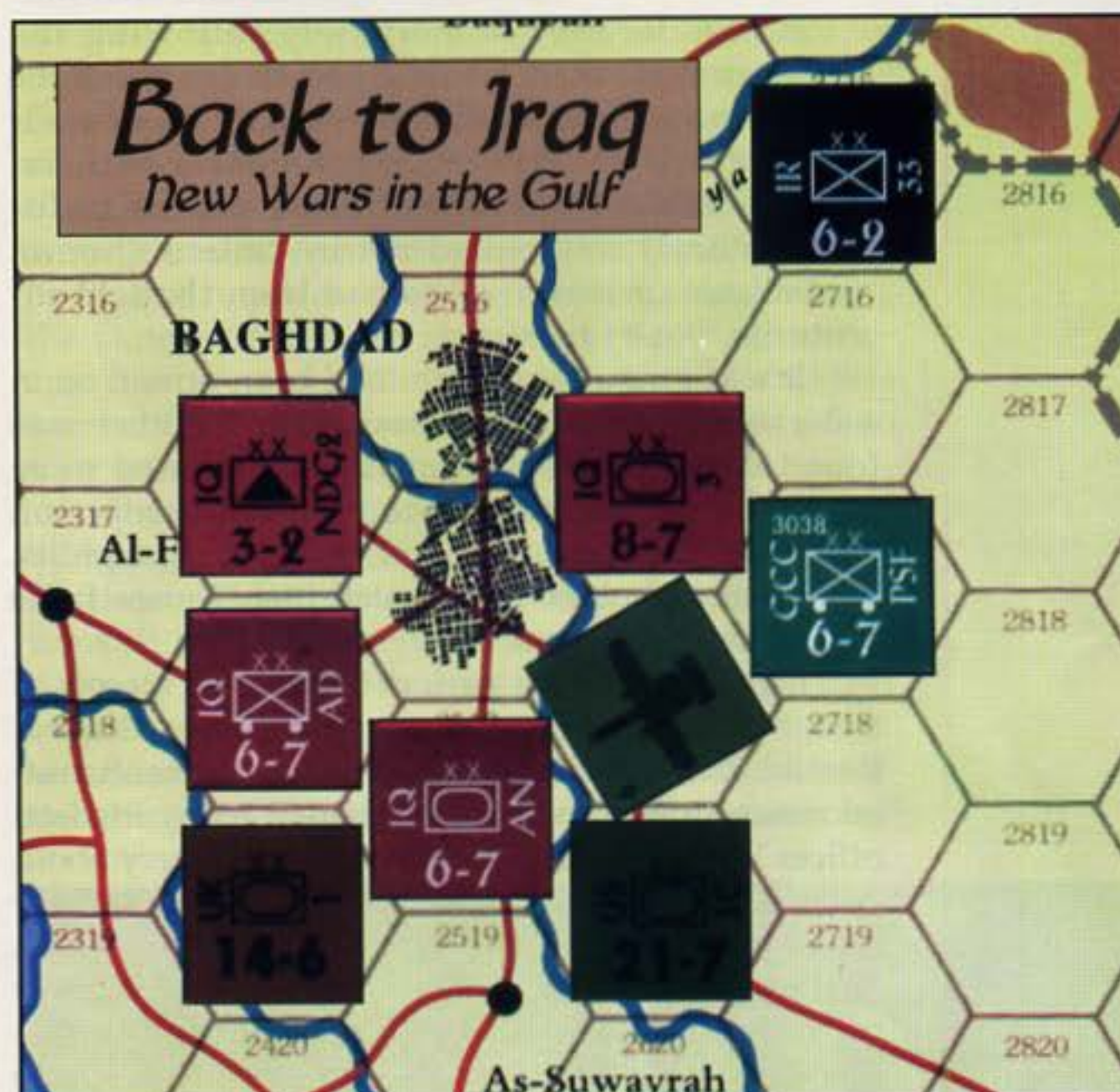
Under that treaty, the Russians lost control of Poland, the Baltic states, Georgia and the Ukraine, in addition to having to pay 6 billion marks in reparations. These were brutal terms, far worse than those inflicted on the Germans in 1919.

Hoffmann, who titled his memoirs *The War of Lost Opportunities*, had realized the triumph in the east, when it finally came, was a hollow one: "After the Russian revolution, we could [have decided] to put Russia in order, to make an alliance with a new Russian government to bide our time in the west; or else to employ the superior numbers we possessed in order to make a great decisive attack in France."

Ludendorff chose the latter course, but his greed for Slavic territory kept almost a million soldiers tied down in Russia while the decisive campaigns of 1918 were fought elsewhere. The hard won supremacy in the east lasted only until November, when defeat and revolution swept both the Hohenzollerns and Hapsburgs from their thrones. ☛

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The Eastern Front in World War I

The Medical View

by David W. Tschanz

In the decades immediately following the American Civil War, medical knowledge about the nature and causes of disease — and about their prevention — underwent a revolutionary advance. In 1876, Robert Koch proved that a particular disease (anthrax) was caused not by "miasma" or an "imbalance of humors," as had been thought for centuries, but by bacteria.

It was as if a searchlight had been turned on in a darkened room. One disease after another was found to be caused by bacteria as more and more medical researchers began to train microscopes on their patients. Typhoid fever, dysentery, syphilis, plague and cholera all revealed their causes to be microscopic life forms.

During the same period the role of insects in transmitting disease to man was also explained. Ronald Ross, a British military doctor, demonstrated mosquitoes transmit malaria. US Army medical officer Walter Reed made the same discovery about yellow fever, using soldiers who volunteered for his experiments. Armed with this new knowledge, another Army major, William C. Gorgas, made war on the mosquitoes of Cuba and thus drove that disease off the island. When the same principles were applied in the United States, they worked again. The last yellow fever epidemic in this country occurred in New Orleans in 1905.

Malaria proved susceptible to the same line of attack. Gorgas led a campaign against mosquitoes during the building of the Panama Canal that allowed the Americans to succeed where de Lesseps, the builder of the Suez Canal, had failed.

In the Hong Kong epidemic of 1898, Yersin showed bubonic plague was transmitted by fleas. In 1909, Charles Nicolle discovered lice gave typhus to man. French scientist Louis Pasteur had already shown defenses could be built against disease — he developed immunizations against rabies, chicken pox and anthrax. A few years later vaccines for typhoid and cholera were also devised.

Once it was understood why diseases happened, it was also understood why some measures, such as sanitation, worked. By denying the organ-

isms a chance to breed or find hospitable environments, the science of disease control was discovered empirically. Suddenly a whole range of organisms could be attacked at their source. For the first time in all the millennia of one-sided warfare between man and disease, where man had always been in the open and disease ever in ambush, the victim was in a position to organize and rationally plan strategies against those historic enemies.

The Russo-Japanese War was fought in 1904-05, and though certainly important for other reasons, it was also noteworthy in that for the first time in the history of armed conflict the number of combat-related deaths exceeded those from disease. Military doctors were finally able to devise means to prevent disease.

By the time World War I broke out in 1914, medical science had made such great progress there was reasonable hope the epidemics that had accompanied all previous major wars could be avoided. With the exception of the mortality from the worldwide epidemic of influenza in 1918-19 (see *Command* no. 16), that was more or less the case on the western front. Neither side in that theater experienced anything remotely resembling the war-related epidemics of the past: typhoid fever, dysentery, cholera, plague or typhus fever. But in the east one disease returned in all its medieval ferocity and wreaked havoc on the plans of the Central Powers.

The Serbian Front

After the assassination of the Archduke Ferdinand in July 1914, Austria-Hungary declared war on Serbia and attacked that country. Militarily the Serbs were in desperate straits. They had just finished a war with Turkey, the third they had fought in two years. Munitions and war materiel were scarce. Belgrade, the capital, was dangerously exposed on the frontier with Hungary, and the entire populace was war-weary.

Belgrade was bombarded and the Austro-Hungarians tried to push their way across the Sava

River. Those efforts were repulsed, but later, attacking from the Bosnian border, the invaders succeeded in taking Valjevo and then Belgrade. There were reverses, however, and some 20,000 Austro-Hungarian prisoners were taken by the Serb defenders.

The loss of Belgrade was not of crucial importance, since the city was in no way the heart of the country. The Serbian government relocated to Nish. At the same time, the widespread destruction of towns and villages across northern Serbia caused the civilian population there to flee southward. There was no shelter for them, and hospitals, doctors, nurses and drugs were in short supply. There were only 400 physicians in the entire country. In addition to the many sick and wounded Serbians, there was also the burden of caring for the 20,000 POWs.

Typhus fever began to appear first among the refugees, then within the ranks of the Serbian army and the Austro-Hungarian prisoners. The disease had been endemic in Serbia for centuries, and these first cases caused little alarm — there was, after all, a war on. But in 1812, typhus fever had shattered Napoleon's Grand Armee in Russia long before "General Winter" had its effects (see *Command* no. 11), and it was about to reprise its role as a prime determinant in military strategy.

Lice & Typhus Fever

Typhus fever is not typhoid fever, nor is it related to it, despite their similarity in names. Typhoid fever is a disease of the gastrointestinal tract caused by a bacterium, *Salmonella typhi*. Man acquires the disease by eating or drinking food or water contaminated with feces from an infected person. Typhoid fever is therefore a disease resulting from poor sanitation and impure food and water supplies.

Typhus fever, in contrast, is a disease of filth. It is transmitted from one person to another by the common body louse, *Pediculus humanus* (but not by the head louse). These small insects have been the bane of armies throughout history and have been known variously as "cooties" and "personal livestock." But the actual causative agent of typhus fever is a microscopic organism that is not quite a bacteria, but is at the same time too developed to be classified as a virus, called *Rickettsia prowazeki*. These *Rickettsia* in fact cause a variety of sicknesses, including trench fever and Rocky Mountain spotted fever.

Typhus fever is common only where lice are common — among large aggregations of people who do not bathe or change clothes regularly and are forced to live in close quarters. In other words, in just the situations infantry, refugees and POWs are likely to find themselves (typhus fever was also once called "jail fever" and "ship fever").

The lice cling to the seams of clothing, cuffs, hems and any other space that provides hiding

room. They move from one person to another more or less by accident, such as an accidental brushing against, loan of clothing, or simple proximity, especially at night, rather than by deliberate migration. The one time they make a mass exodus from a person is when death overtakes their host and the rapidly cooling body forces them to find a more hospitable environment.

Lice feed by sucking blood from their host. They are incredibly prolific, laying eggs called "nits" that stick to clothing and human body hair. Lice were once ubiquitous, and a plethora of phrases refer to them, their progeny, and getting rid of them. Expressions like: "You louse!" "Nit-picking," and "Going over it with a fine-tooth comb," serve as testimony to our long and uncomfortably intimate relationship with them.

Man has known how to get rid of body lice for millennia, and the method is mentioned by the Greek playwright Aristophanes in one of his comedies. Head lice are eliminated by shaving one's head (hence the popularity of horsehair wigs among our unwashed ancestors). Getting rid of body lice requires washing the body and boiling the clothes. These are simple actions in some circumstances, but soldiers, refugees and prisoners can rarely engage in such activities, even when they have changes of clothing available.

The louse becomes infected with typhus fever by biting an already infected person (or rat). About six days after his meal, the louse becomes infectious. If the louse stays where it is, not much happens; if he moves to another host, the process begins.

Because lice are extremely temperature sensitive, they will move from the body of a person suf-



Serbian soldiers who have died from Typhus.

fering from typhus fever as quickly as from a dead person. *Rickettsia prowazeki* meanwhile multiplies in the louse's gut and is excreted in large amounts when the insect defecates. These feces retain their infective power for a considerable time. Infection of humans occurs when the dry feces are rubbed into the skin, fall on the eye, or (and this is still debated) are inhaled into the lungs. Humans can also become infected by crushing a louse in scratching and thus rubbing the content of its gut into the skin and the bite puncture just made by the insect. For the louse the ingestion of the microbe is also a death sentence — 10 days after being infected it too dies.

Once in a victim's bloodstream, *Rickettsia prowazeki* begins to multiply. In humans the clinical symptoms begin about 12 days after infection. The onset is sudden, with high fever, headache, chills, numbness, generalized body pain and prostration often leading to delirium, coma and heart failure. The most characteristic symptom consists of reddish spots, looking like flea bites, that rapidly darken and may even merge, covering the entire body. Before antibiotics, the fatality rate varied from 10 to 80 percent.

General Typhus

The appearance of typhus fever, the large number of refugees, and the general devastation of the country did not, at first, stop the Serbian military. On 2 December 1914 they launched a counter-attack, and after three days of battle the entire Austro-Hungarian invasion force was shattered and in headlong rout. The Serbs took another 40,000 prisoners, and the northern part of their country was now entirely devastated. In the meantime, typhus fever had spread throughout the civilian and military population; its lengthy incubation period no doubt meant it was circulating in the blood of the Serbs who drove out the Austro-Hungarians. In the confusion of war it found ample opportunity to spread.

It is impossible to state with any real accuracy just where the epidemic started. The first accumulation of cases occurred among the Austro-Hungarian prisoners held at Valjevo. Outbreaks throughout the rest of Serbia followed within a week. The infection traveled with the wandering refugees, with prison trains, and with moving troops, and was rapidly disseminated to all parts of the country. What followed next was a scene of horror such as Europe had not witnessed since the Black Death.

At the start of World War I, there were some 3 million Serbs. Within six months 500,000 — one in six — developed typhus fever. Over 200,000 (including 70,000 soldiers) died from the disease. Half of the 60,000 POWs also died.

The Serbs were simply unable to cope. The few existing hospitals were full to overflowing and others had to be improvised in buildings that often lacked sanitary provisions. There were practically

no nurses, beds, linens, and no medicines. Of the 400 doctors in the country, almost all of them contracted the disease, 126 fatally. There was eventually even a grave digger shortage as they also fell victim.

Through February and March 1915, the epidemic flared up with a speed and virulence never equaled in any typhus outbreak for which we have reliable records. In April, when it reached its peak, new cases ran at 10,000 per day (that was 2,500 daily admissions for the military hospitals alone). The mortality rate ranged from 20 percent at the beginning and end to 60 percent at the height of the epidemic in March and April.

For six months, Serbia was politically and militarily helpless — a ripe plum ready to be picked. But the Central Powers did not attack. Their strategists knew better than to enter a country while an epidemic raged. General Typhus, while scourging the Serbian population, also held the borders inviolate.

Thus Berlin and Vienna lost six months during the most critical period of the war. It is anybody's guess as to the effect this delay had on the immediate course of the war. But it is at least reasonable to believe a quick thrust through Serbia at the time — with its effects on Turkey, Bulgaria and Greece, the closing of Salonika, and the establishment of a southwestern front against the Russians — might have tipped the balance in favor of the Central Powers. Typhus fever may not have won the war for the Allies, but it certainly helped by denying the Germans and Austro-Hungarians the Balkans at a critical juncture.

Typhus quickly established itself along the entire eastern front, but was kept from reaching epidemic proportions in both the German and Austro-Hungarian lines by the energetic delousing of the troops. Though it penetrated into the POW camps of central Europe, the disease was prevented from spreading to the civilian population there. The total absence of typhus from the western front at the same time it raged on the eastern front, tearing at the Russian army and at least making itself felt among the forces of the Central Powers, was among the most remarkable phenomena of World War I.

No full explanation for this has ever been established. Soldiers in the trenches of the western front were as universally lousy as their counterparts in the east. Another louse borne disease, trench fever, which is closely allied to typhus, was common. The only reasonable idea is that armies on both sides were more afraid of typhus than they were of shot and shell. The Central Powers, realizing a typhus epidemic introduced with troops transferred from the east could easily lose them the war, took the utmost precautions to avoid it. Soldiers were deloused whenever they came back from the frontline. Army sanitary organizations on both sides were ever conscious of the peril, alert for

suspicious cases, and unusually quick to resort to wholesale unit delousing. The mortality of the lice in that war must have been the greatest in history.

Thus all the great powers but one prevented a typhus fever epidemic from crippling their armies. But hapless Russia was the next target after Serbia. As defeat, famine and refugees swept the Romanovs' empire, cholera, typhoid fever and dysentery swept with them as essential services collapsed. Then in the winter of 1918-19, typhus fever appeared in epidemic form.

Typhus fever wasn't unknown in Russia; in the 20 years before the revolution there had been an average of 82,000 cases per year. During the war the disease had spread slowly but steadily. In the first two years there were 100,000 cases; after the Great Retreat of 1915 the number reported rose to 154,000. But even that number was soon to pale to insignificance.

The great epidemic that broke out at the end of 1918 invaded the Soviet Union on three fronts: Petrograd, the Romanian border, and the Volga region. The disease raged for four years amid the famine and dislocation of the revolution. For a while it looked as if the fate of the Communists was to be determined by typhus fever. Lenin, surveying the situation early in 1919, put it succinctly: "Either socialism will defeat the louse, or the louse will defeat socialism."

Conclusions

During World War I, typhus fever was only kept from reestablishing its role as a "Great Captain" and ravaging the armies of all the combatants because medical science finally understood it and how to defeat it. Generals came to appreciate that their greatest enemies were not always their armed opponents, but the microbes lying in wait for them. Sanitation, medical care and hygiene became as important to military planners as munitions, tactical innovation, and strategic gambits. Still, the experiences on the eastern front showed what could happen if the guard were let down even for a short time. The Serbian campaign was the last time typhus fever played a significant role in the outcome of a war — and it will probably remain so unless some future leaders forget what it can do. ☛

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How to Read Unit Symbols.

Unit symbols are a quick and easy way (once you get used to them) to clearly show the makeup of even the largest and most complex military organizations. The symbols are used to show the location of the unit on a map. When combined with other symbols in a wire-diagram, the symbols can be used to show the strength and weaponry of a single unit (a Table of Organization and Equipment, or TO&E) or show all the units commanded by some higher organization (an Order of Battle, or OB).

Each unit is identified by a box. The symbol inside the box indicates the unit's type, meaning the primary weaponry and equipment the unit uses to carry out its missions. Examples of unit types are:

	Infantry		Rocket Artillery
	Road-Motorized Infantry		Mortars
	Cross-Country Motorized Infantry		Anti-Tank
	Airmobile or Air Assault (heliborne)		Anti-Aircraft Artillery (pre-1945)
	Airborne (or Paratroop)		Modern Air Defense Artillery
	Marines or Naval Infantry		Signals or Communication Troops
	Mountain Infantry		Fixed-Wing Bombers
	Mechanized (or "Armored") Infantry		Fixed-Wing Fighters
	Combat Engineers		Attack Helicopters
	Commando or Special Forces		Supply or Transport
	Horse Cavalry		Replacements
	Armored Cavalry or Reconnaissance		Motorized Special Ops
	Motorcycle Troops		Military Police
	Armored Cars		Motorized Anti-Tank
	Armor or Tank		Self-Propelled Anti-Tank
	Assault Gun or Self-Propelled Artillery		Combined Arms
	Truck-Towed Artillery		Wheeled Marines
	Horse-Drawn Artillery		Motorized Marines

Unit Size

XXXXXX - Theater of Operations	- Regiment
XXXXX - Army Group or Front	- Battalion
XXXX - Army	- Company
XXX - Corps	••• - Platoon
XX - Division	•• - Section
X - Brigade	• - Squad or Fire Team

Notes

1. If a unit symbol displays a heavy band down its left side, or a portion of its symbology is filled in, that unit is armed with "heavy" weapons. For instance, this would mean "heavy weapons infantry," while this would mean "heavy tanks."
2. If there is a bracket ([]) atop a unit's size-symbol, that unit is ad hoc in nature, meaning it was/is not a regular organization in its army, but was created for some special (temporary) purpose or mission.
3. The number or word appearing to the side of a unit box is that outfit's numeric or name identity. For instance, this unit would be the 1st Mechanized Infantry Division.

Dressed to Kill

The Role of Uniforms in Military History

by David W. Meyler

Romans & Barbarians

The sight of a formally arrayed Roman legion, its solid formations in ordered ranks, armor gleaming in the sun, was sometimes enough to intimidate an enemy so badly that the ensuing battle was already won before the first javelin had been thrown. There was, however, more to this Roman uniformity than the mere display of martial prowess.

The hallmark of many of Rome's tribal enemies was the valor of the individual warrior. Each battlegroup and clan was distinctive, and the most renowned warriors and their followers stood out among the rest in both dress and action. Whether it was a mustard-painted British chieftain engaged in daring acrobatics on his chariot before the enemy, a Gallic champion, naked, with hair whitened and starched into spikes with lime, ready to dedicate his own death and those of his enemies to the battle god Teutates, or a lone German riding forward to boast of his accomplishments and taunt the silent ranks of the Roman foe — all of it, too, had deeper meaning.

Uniforms, or military dress, are in the literal sense superficial: what a soldier wears on his physical exterior. However, by examining what a soldier wears, and why he wears it, we can get a better impression of how war is viewed by his society, and what are the motivating factors that lead him to fight in it.

In the example above, by the time of the Roman Empire at the start of the Christian era, that army had become a multi-national force. It had already been several generations since Italians, much less native Roman Latins alone, made up its majority. Recruits came from all parts of the Roman Empire — Spain, Gaul, the Balkans, Asia Minor and North Africa. There was no natural bond between those men in native language, religion, or other customs.

Unit cohesion therefore had to be created artificially. Whether a legion was raised in Spain or Syria, organization was virtually identical, hierarchically built up from the eight-man *contubernium* (squad), to the century (company), cohort (battalion), and finally the legion itself. Commands and command structure also followed the same pattern.

Unit standards — in the form of an eagle or other animal totem mounted atop a pole — were used as a physical representation of the unit itself, from century up to legion. But those standards were also imbued with religious/mystical significance. They symbolized the distinct living personality of a unit, of which the individual soldiers were only constituent parts. For a unit to lose its standard was a particularly serious calamity — it



Clockwise from top left: Signifer, Legio XIV Gemina, Tiberian period, Aquilifer, Legio XI Claudia Pia Fidelis, mid-1st C. AD, Centurio, Legio II Augusta, late Augustan to Tiberian period.

Ronald Embleton/Osprey Publications

meant the death or disbandment of that unit, since it could no longer exist with its symbolic heart ripped out.

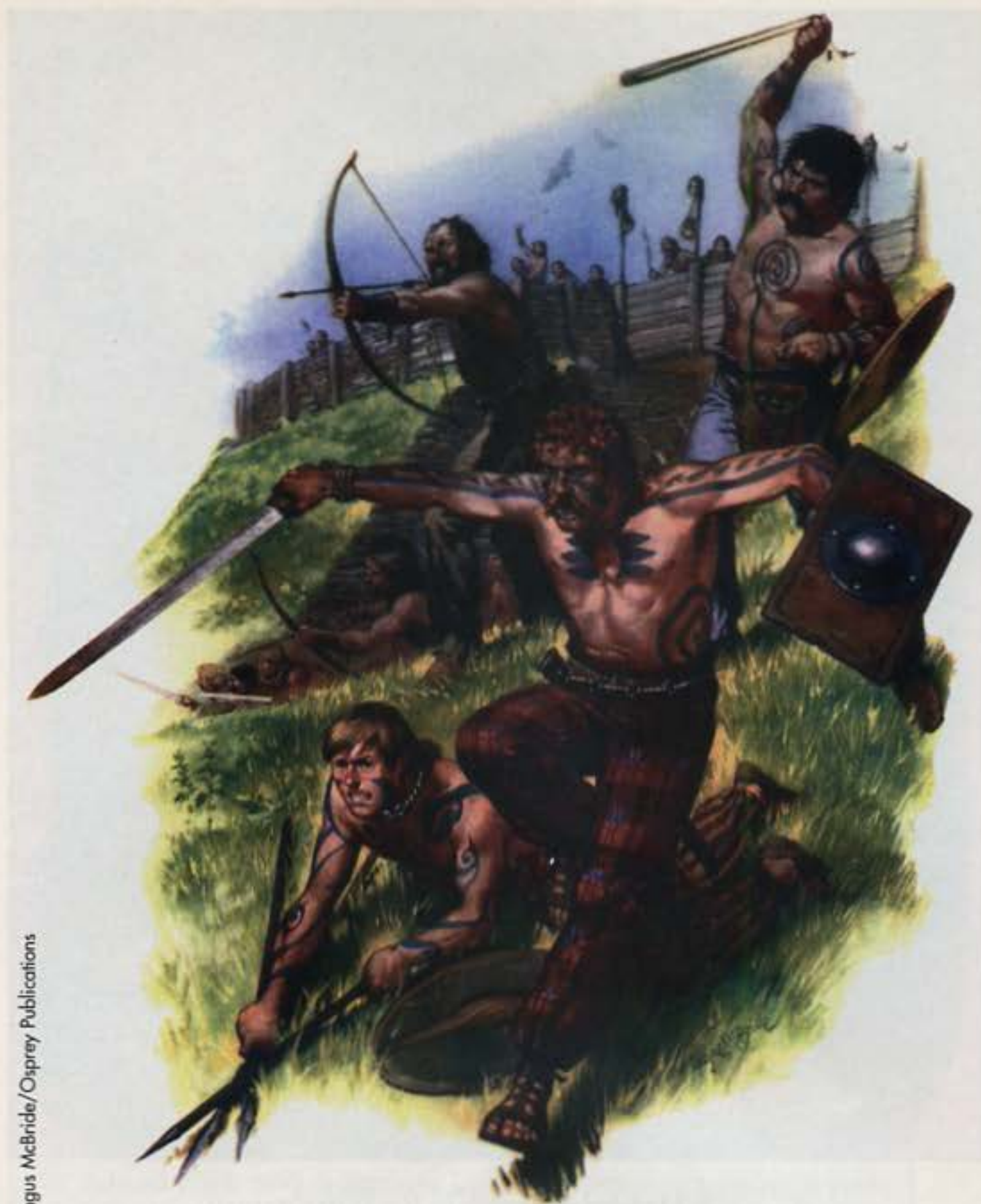
During the heyday of the Empire, Roman legionaries dressed pretty much the same from one unit or garrison to the next. Though there were some local differences, they were matters of detail rather than substance. The use of a uniform dress, like the other forms of standardization, masked the racial and social differences existing among the troops. Whether they had been born black Africans or red-haired Britons, all were Roman soldiers — all equally expected to live, fight and die for their legion. Previous identifications and allegiances were obliterated.

The lives of young men in the “warrior societies” outside the Empire were vastly different. In most there was no distinction between fighting man and civilian. All boys were expected to become warriors when they reached manhood. Women, too, were expected to fight in defense of their tribe and clan, and especially in some Gallic tribes they played key roles in organizing and directing warfare. (That is, in serious fighting wherein the survival of the clan/tribe was at stake, as distinct from cattle raids and petty brawls, which were exclusively the prerogative of male warriors.)

It was in Rome where a distinct martial class first developed, and where the concepts of “soldier” and “civilian” became significant. There, being in the army developed into a profession. The word “soldier” itself demonstrates this — it comes from the Roman *solidus*, or coin. Thus someone who lived by being paid to fight eventually came to be referred to by the name of the coins given to him. In the early Empire, legionaries were usually paid with a measure of salt, or *salarium* — though today it’s not only soldiers who earn “salaries,” it’s still military men who are most commonly called on to prove they’re “worth their salt.”

Tribal armies didn’t need the artificial organization of a legion; there were inherent social bonds between the warriors based on family and clan ties. Family units — father, brothers, sons — formed the core units, while larger military groupings were based on their extended families, clans, and tribes. Command hierarchy was also based on that of the family.

Just as the barbarians lacked a formalized military structure, so they also lacked uniforms. The Gauls, Germans and Britons went to war dressed much as they were in their daily life. The elite warriors, who by the time of the Empire had begun to evolve into a noble class, wore distinctive gear, but it tended to emphasize their individuality — the exact opposite of the Roman uniform designed to obscure the individual. To Roman observers the tribal armies seemed a confused and disorganized mob, but those forces had an inherent cohesion that no amount of Roman training could overcome.



Angus McBride/Osprey Publications

Celtic light infantry, 1st century BC/1st century AD

It was the tribes, not the legions, which eventually proved dominant in the West.

Soldiers & Civilians

There is a direct historical relationship between the level of military organization and military dress. Armies in societies with a formal and developed military force, where there exists a distinct division between combatants and noncombatants, show more formalized military dress or uniforms. The more distinct the division between soldier and civilian, the more formal the uniform becomes.

Tribal warfare in Europe remained the dominant form of warfare until the end of the first millennium. Then the various Germanic kingdoms that had grafted themselves over the structure of the fallen Roman Empire began to develop a certain permanence. From the Carolingian Empire there came the Kingdom of France and the Holy Roman Empire, while the Kingdom of England developed from a fusion of late Roman, Anglo-Saxon, Danish and Norman sources.



A Marshal of France in the 15th Century.

While there were exceptions, feudalism became the predominant form of political and military organization in Europe. Military service was tied to land rights and a distinct class of fighting men began to rise again. This was the classic medieval division of society into three broad classes: the Church, the nobility, and the peasantry. The nobility formed the military class, the knights.

Military service in exchange for land was eventually supplanted by a money payment. A nobleman, rather than going to war himself, could pay his lord a sum of money, or pay for the maintenance of a number of his knights. By the time of William the Conqueror in 1066, armies were again largely based on a cadre of paid professionals, though overall manpower still was supplemented by a form of the earlier tribal levy. As the Middle Ages progressed, the mounted knight and his retainers more and more dominated all military activity. The peasant levy degenerated to the point where it was virtually worthless in terms of producing forces with real combat power.

As the dominance of the knights increased, so too did their military accoutrements become more complex and distinctive. The early Germanic war-

rriors decorated their shields, but those simple patterns eventually developed into heraldic crests encoding whole family histories and social rankings. A lord and his retinue of knights decked out in their livery and armor — the “uniform” of the medieval warrior — were immediately recognizable to their peers.

Likewise, a complex code of behavior developed for the knights — chivalry. It determined behavior on the battlefield and dictated how a Christian knight should act from one end of Europe to the other. At the same time, the idea of the “just war” was developed. Warfare was becoming formalized again.

Toward the end of the chivalric era, as the feudal system broke down, knights’ armor continued to become more complex. Finally, the costly suits of heavy plate armor grew so heavy they became unsuitable for actual use on the battlefield. They had become ceremonial, only good for visually emphasizing the distinction between members of the military class and others.

Armor itself came to denote rank, and vestiges of the symbolism — such as the officer’s gorgette — lasted until the 19th century. Even as late as the 17th century, officer-aristocrats usually donned their ceremonial armor when having their portraits painted.

Mercenaries

From 1300 onward, the complex society that had grown out of the simpler feudalism of the 10th century began to unravel. States based on territory overseen by a centralized administration began to replace the systems of mutual obligation that had held feudalism together.

The growth of centralized kingdoms, of course, struck at the very existence of the feudal noble class. The newly emerging central governments resorted to hiring mercenaries to directly undercut the nobles’ previous monopoly of military force. These new armies, maintained on a permanent basis, became the sole possession of the king. No longer did the throne have to rely on the nobles to raise the military forces needed for war.

Around the same time, gunpowder and firearms brought on revolutionary technological changes. Building the new weapons and training specialists to operate them were often beyond the financial means of individual nobles.

The first of the new standing armies, such as the French *Campagnes d’ordonnance* appearing late in the Hundred Years War, were relatively small. Mercenaries were expensive even for kings to maintain, and unlike the knights, they had no particular bond or allegiance to their employer. Once the money ran out, it was just as likely they would join the enemy as remain loyal. Disbanding mercenary units at the end of a war or campaign also often proved difficult, and roving bands of unemployed soldiers were an endemic plague across

France at the end of the Hundred Years War. Still, by 1550, mercenary companies formed the bulk of every European army.

The Spanish monarchy fielded the most formidable army on the continent at the time, with its highly trained masses of musketeers and pikemen. The mounted noble horsemen were still present, but they were now only auxiliary to the army of footmen. The word "infantry" comes from this period, and is derived from the troops of the Spanish Crown Prince, the *infanta*. All of these troops were mercenaries in the sense that they were paid soldiers, but unlike completely freelance companies they served only the Spanish Crown. Without pay, however, they quickly became uncontrollable and liable to complete breakdowns in discipline. Other countries failed to attain even that degree of control, and mercenary armies, sometimes numbering into the tens of thousands, became the scourge of Europe.

The formalized and restricted warfare of feudalism broke down completely, a process that culminated in the terrible ravages of the Thirty Years War. In that conflict mercenary captains such as Wallenstein became virtual powers unto themselves. What began as a dynastic/religious dispute in 1618 within the Holy Roman Empire, soon grew into a conflagration across much of Europe. States often lost control of their armies. The mercenaries had no desire for peace, and if they weren't paid they simply took what they wanted. There was no power to stop them except other mercenary forces — so there was plenty of "work" for everyone. The slaughter wasn't stopped until 1648, after an estimated one-third of the German population had been killed and some areas completely depopulated.

That war also saw the complete blurring of the distinction between civilian and soldier. Uniforms no longer existed. Everyone who could afford a weapon was a soldier, and anyone was a target. It was a war without rules, and thus one of extreme brutality. To avenge years of murder and pillage, peasants would often ambush and kill any soldiers they could find. That would bring retaliation, and the cycle would continue. Where mounted men had once been chivalrous, they became mere cavaliers.

Even before the Thirty Years War, there had been portents of the new trend. For example, in the long war of the Dutch Revolt (1568-1648), the Spanish mercenary armies received their first serious check. But that reverse didn't come from the largely ineffective mercenary forces raised by the rebels; it came when the cost of the fighting bankrupted the Crown and Madrid could no longer pay its troops. As a result, in the early 1570s the Spanish army went on an orgy of pillage and rapine — not in enemy territory, but in friendly cities.

National Armies

The Dutch, under Prince Maurits of Nassau, were the first to realize victory could only be

achieved by first reforming the army. The mercenaries had proven unreliable at best, and the seven provinces revolting against Spain weren't united by language, culture or economy. The civic militias of the various towns had been enough to keep the Dutch in the war, defeating a number of Spanish sieges, but they were of no use for offensive action. Like the Romans — and that classical example served as a direct influence on the Dutch — an artificial means had to be found to create a loyal and cohesive army.

The Dutch Republic thus became the first modern nation-state. It was not a polity based upon a particular nationality — rather, an individual's nationality was derived from his identification with the state. Their red, white and blue flag was the first national flag. It was a flag representative of

Military Dress Adopted By Civilians

Cravat: The decorative neckties that are today part of the wardrobe of most white-collar males around the world had their origin in the scarves worn by Croatian troops serving in the French armies of the 17th century. "Cravat" comes from the French for "Croat."

Cuff Buttons. One common story attributes the origin of the now functionless buttons on men's jacket cuffs to Frederick the Great or Napoleon. Supposedly one of those rulers decreed the buttons be sewn on to uniform sleeves to deter the men from wiping their noses there. In actuality, the buttons date to the 17th century, when military coats were given extra-long sleeves that hung over the wearers' hands for protection in cold weather. In action the sleeves were folded back and buttoned to keep them from being a hindrance in handling and firing a flintlock. Eventually the folded sleeves became decorative and finally disappeared altogether, but the buttons have remained.

Pantaloons. This piece of women's fashion became popular in Paris during the Allied Occupation of the city in 1814-15. It was copied from the flowing trousers worn by the Russian Cossacks, part of the army of occupation.

Cardigan. Lord Cardigan, commander of the British Light Cavalry Brigade in the Crimean War, gave his name to this popular type of wool sweater. He was prone to bronchitis, and therefore wore a specially-knitted sweater to keep warm.

Balaclava. Another item derived from the Crimean War, this type of hood closes to leave only the smallest part of the wearer's face exposed to the elements. It was named for the main British base, the town of Balaclava, during the bitter winter siege of Sevastopol in 1855.

Raglan Sleeve. This particular (seamless) cut of sleeve is named after Lord Raglan, commander-in-chief of the British forces in the Crimea. Raglan died during the campaign from a combination of ailments brought on by exposure and fatigue. Maybe he should have worn a cardigan.

Homburg. The Homburg hat started as headgear worn by the Homburg Militia in the mid-19th century. Prince Albert, Queen Victoria's husband, saw the unit, liked their hats, and popularized it for civilian wear.



A typical musketeer from 1607, taken from The Exercise of Arms. His apparel is that regularly worn in civilian life at the time, and aside from his weapons, there is no obvious distinction of dress marking him as a soldier.

a state as an artificial entity, not one formed by a particular religious group, guild, city or dynasty. The only unifying factor among the seven provinces was their opposition to Spain — beyond that, artificial symbols were created and used to define the new nation and build unity among its citizens.

The new Dutch army was still, strictly speaking, made up of mercenaries, in as much as the soldiers were paid — but these were no longer free-formed companies working under contract. The new units were paid directly by the state, and the strength of the Dutch economy was such that they were well and regularly paid. In return, the Dutch government insisted its soldiers submit to training

and discipline. A standardized system of command and a professional officer cadre were established.

In 1607 *The Exercise of Arms* was published, the first modern training manual. It was translated into many other languages and became a standard military text for the next half-century. Companies, battalions and regiments were set up on a permanent basis — and uniforms were issued.

As the century progressed after 1648, uniforms returned to being the norm, rather than the exception, throughout Europe. By the time of the War of the Spanish Succession in 1702, not just regiments, but entire national armies could be identified by the color of their uniforms. While there were exceptions, English troops generally wore red; the Dutch wore blue, the French wore pearl gray; the Hapsburg Empire wore white, and the Russians dark green.

During the 18th century, then, European warfare regained many features to formalize it and separate it from civilian life. Unlike the Thirty Year's War, when civilians were often the main victims of the fighting, in the 1700s they were usually left unaffected.

The great monarchs of the day, in fact, went to great lengths to separate their new armies from their civilian subjects. Thus the new forces did not so much represent and defend the interests of their nation's citizens as they did that of their nation's monarch. As the distinctions between soldier and civilian were re-emphasized, uniforms reflected the changes by becoming more elaborate. Various colors, markings, embellishments and decorations were used to differentiate one regiment from another; even companies within regiments were sometimes differentiated by uniform: grenadier, chasseur, flanquer, etc.

By 1789, new ideas about nationalism again began to shake the power structures of Europe. The mass of citizens were no longer content to be subjects of a particular monarch; they became conscious of the idea they were citizens of and within nations, part of a greater collective whole.

The wars of the French Revolution saw the rise of mass national armies based on broad conscription rather than paid professionals. Wars were thus no longer mere arguments between competing dynasts and governed by accepted laws and codes of conduct. They became struggles between entire nations, where the stakes were all or nothing. The distinction between civilian and soldier began to diminish again.

The first reaction of the old regime, like the baroque development of ceremonial armor at the end of the feudal period, resulted in even more complex and elaborate uniforms. The armies of the enemies of France were dressed in a spectrum of regimental color schemes, with piping, epaulets, braid, feathers, shakos and busbies. But the real future was best shown by the Prussian army fielded during the late Napoleonic Wars.

Due in part to impoverishment, the Prussian army of 1813-15 was equipped with a much simpler and more functional uniform than had been the norm over the previous quarter-century. The militia (*Landwehr*) regiments — the most poorly outfitted of all — in fact became the general model for all later 19th century European soldiers. They wore soft caps, loose trousers and long great coats. This gear was adapted from the *Litewka*, the typical dress of peasants in East Prussia. Military dress had again moved closer to that of civilians.

The trend since then through the 20th century has brought the almost complete blurring of the practical distinction between soldier and civilian. Today even the definition of what exact state of affairs constitutes war, let alone who is a combatant and who is a noncombatant, has become a matter of debate among politicians, generals, scholars, and news reporters — not to mention those of all social classes who get swept into the fighting. On the one hand, terrorists (or freedom fighters) now view the entire social and economic complex that supports an army as “the enemy,” as much as any member-soldier of that army. The nation states of the West, however, still attempt to maintain the distinction between “military” and “non-military” targets.

Established national armies still retain uniforms, though compared to those of any other era they are much simpler and less distinct. Just as military dress has moved closer to civilian wear, so too has non-military clothing borrowed from the soldier-class. Already by the time of the Second World War, women’s fashion in the West had adapted to general military tailoring, with angular lines and padded, squared shoulders. At present it’s fashionable for civilians to wear military-style caps, boots and camouflage pants. As our conceptions of what constitutes war have blurred, so has the actual physical images of “soldier” and “civilian.”

Yet another counter-trend began with the end of the Cold War and the swift victory won by the small, highly-professional Western forces in the 1991 Gulf War. That is, many developed nations are now reconsidering the wisdom of retaining conscription at all. It is possible the near future will see the formation of armies ever-smaller in numbers, but more potent in the force they wield — “armies” consisting of a few, highly trained “techno-warriors,” armed with complex, automated, robotic weapons systems. Such new armies may well make the current mass-armies look, relatively, like nothing more than a gaggle of pitchfork-armed peasants would have to a World War II-era observer. If that trend wins out over the blurred “soldier-civilian” view prevalent among terrorists, freedom-fighters, and the less-developed nations of the world, we should see the return of marked differences in dress between combatants and noncombatants. ☉

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Thousand Year March

A History of the Roman Army

by Richard M. Berthold

The longevity of the Roman army is matched by few other military organizations in history. Stretching from the founding of the city in the mid-eighth century BC to the collapse of the Western Empire in the fifth century AD, its history spans a millennium (or two, if its Byzantine successor is included). During this period the army evolved continuously, changing its armament and tactics to become in the late Republic and early Empire the finest pre-gunpowder infantry force the world has seen. More important for the history of Rome, its character also changed, from warrior band to citizen militia to professional army, from servant to sometime master of the state.

The Monarchy (c. 753-509 BC)

The early history of the Roman army is poorly understood, particularly with regard to chronology. It almost certainly began as a group of aristocratic fighters, descendants of the Indo-European warrior bands that settled the Italian peninsula from the north in the early centuries of the second millennium BC. Its earliest form would have been more Homeric than anything else: a small force of warrior nobility, lightly equipped, undisciplined and at least as interested in personal honor as group objectives. The quality of their bronze armaments and whether they were mounted would have varied according to the wealth of the individual, and the spear probably predominated, if only because it was much cheaper and easier to make than a sword.

When and by what process these warriors evolved into soldiers is unclear, especially since Roman historians had a habit of assigning developments that occurred much later to one of the seven kings. The first great step, the introduction of the phalanx, was attributed to the mid-sixth century Etruscan king of Rome, Servius Tullius. In as much as the Etruscans were masters of metallurgy and organization, and were in contact with the Greeks, the inventors of the phalanx, it is just possible this claim is correct. On the other hand, the political reforms associated with the so-called "Servian" army definitely came in the fifth century, and the army itself may actually be from that later date.

The phalanx was made up of a dense mass of infantry formed in lines and armed in the Greek fashion with a thrusting spear and round shield, though differences in wealth among the individual

soldiers meant there was a great variety in armaments, particularly in defensive equipment such as breastplates and greaves. The wealthiest citizens made up the cavalry, and the poorer citizens acted as skirmishers, equipped with javelins and slings, but the bulk of the army was heavy infantry. They were organized into "centuries" of 100 men (hence the nickname "army of the centuries"), but the actual combat unit was the legion, which may have amounted to 4,000 men.

The army of the centuries was the first real incarnation of the legion, consisting of *soldiers* acting in a coordinated fashion, rather than *warriors* fighting as individuals in a disorganized melee. As a rule of thumb, in edged-weapon warfare the infantry that is better organized will have the advantage, even against cavalry, which explains the general success of Greek and Roman armies against their barbarian neighbors. In a formation such as the phalanx, the soldiers are able to support one another, protecting flanks and rear and generally acting as a group, all of which creates a fighting unit more effective than the sum of its parts.

In a battle between organized armies, the cohesion of the group becomes all important, and typically in ancient warfare the side that first lost its cohesion and became disorganized was defeated, its individual soldiers being more easily killed or chased off. That was especially the case with the classic phalanx, which had a lack of maneuverable sub-units, thus preventing it from being able to deal effectively with uneven terrain or sudden breaks in the front line.

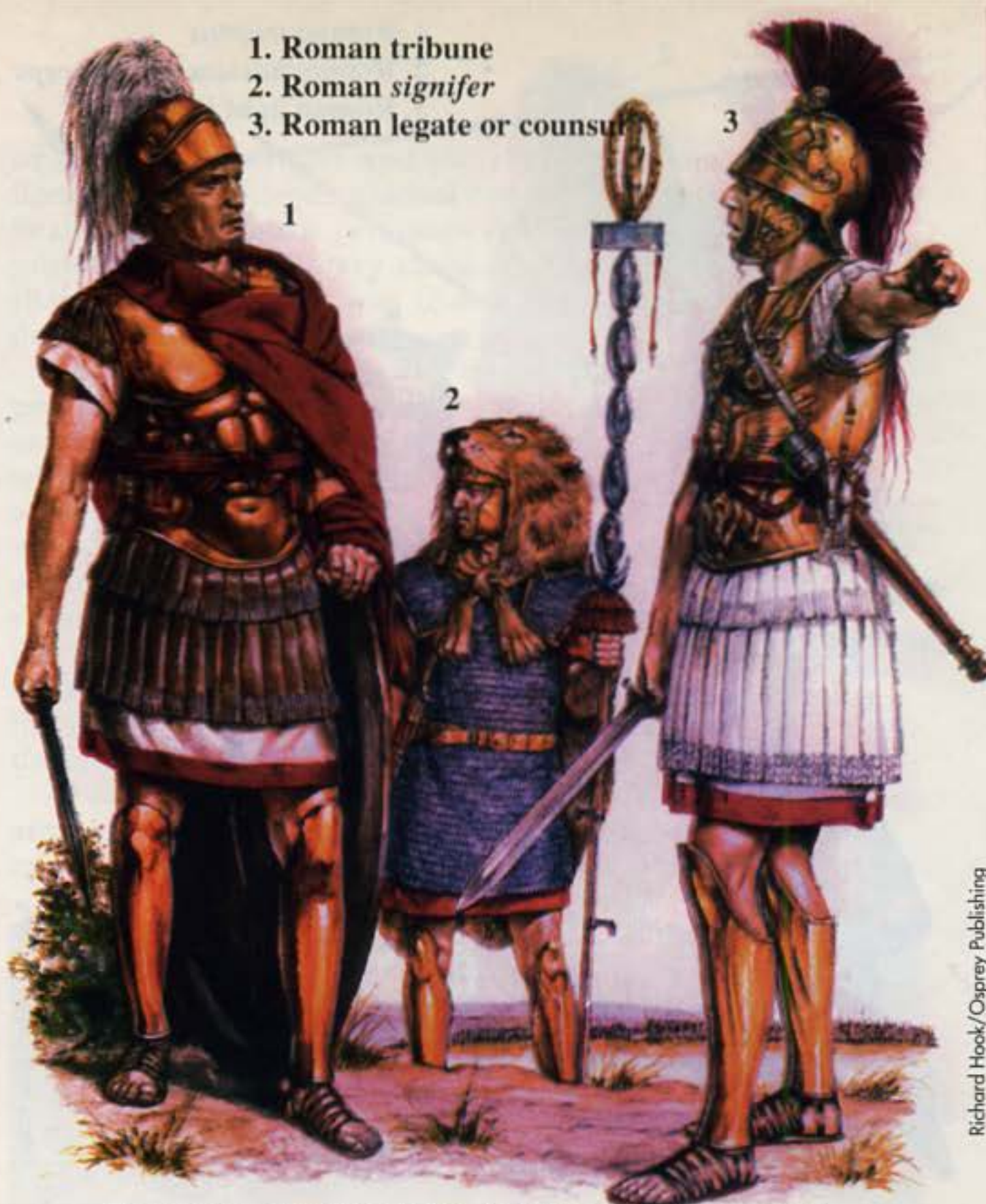
Early & Middle Republic (c. 509-133 BC)

The phalanx army reached its fullest development in the fifth century BC, as Rome's growing economy swelled the ranks of those able to afford the necessary equipment to join it. This army was a citizen militia, heir to the old warrior host from which the Indo-European chieftains had derived their authority, and it was soon playing a political as well as military role.

The early Republic was an aristocracy of birth, and while the citizen assembly included all Romans, the political apparatus was completely dominated by the Patrician families. The state, however,

was being defended by an army made up mostly of commoners, the Plebeians, and by the middle of the fifth century they were using their control of the military as leverage with which to pry concessions from the upper class. Called the "Struggle of the Orders," this process lasted into the early years of the third century BC, when the last vestiges of Patrician dominance were eliminated and the Republic was henceforth in the hands of an oligarchy of wealth, centered on the Senate. (The phalanx had the same political impact of overturning blood aristocracies when it first appeared in the Greek world some 200 years earlier.)

During the two centuries of the Struggle of the Orders, Rome was continually at war, which made the Plebeian tactic of threatening a military strike particularly effective. This constant warfare also led to changes in the army, the first of which came at the end of the fifth century with the final struggle against Etruscan Veii (406?-396? BC). Until then the scope of Rome's wars had been limited, consisting mostly of cattle rustling, raiding, and campaigns of short duration against neighboring Italic tribes. Veii, however, was a strongly fortified city, and the siege kept the army in the field for years. The state thus was compelled to begin paying its citizen soldiers. This first step on the long road to a professional army resulted not only in the possibility of longer service, but also in more standardized equipment. Position in the ranks was increasingly determined by age and skill rather than wealth.



Roman soldiers of the 1st Punic War, c. 264

Richard Hook/Osprey Publishing

Legion Command Structure

In the Republic, the head of the legion was typically one of the two consuls, but with the establishment of the Principate the commander of the legion was a legate chosen by the emperor. These were normally men in their 30s, drawn from the senatorial class and dedicated to their political careers, of which a legion appointment of three to four years was only one stage. The second-in-command was the senior tribune, who also came from a senatorial family, but was typically a man in his early 20s, about to begin his political career after a short stint in the army. The other five tribunes were also young men, but of the lower equestrian order, and they held staff appointments with administrative responsibilities.

The third-in-command of the legion was the camp prefect, who was also the ranking noncommissioned officer and generally a man who had spent decades moving up through the hierarchy of centurions. This was the highest office to which an enlisted man could aspire, and he retained it as long as possible. For example, M. Aurelius Alexander of *Legio XX Valeria* was still camp prefect when he died at age 72.

The backbone of any professional army are its non-coms, and in the legion these were the centurions. The five centurions of the double-size first cohort ranked

above all the rest. The *primus pilus* commanded the first century of the first cohort, but was also a general officer, ranking just below the camp prefect.

The 54 centurions commanding the centuries of the other nine cohorts were all of equal status. From among the privates in his unit each centurion chose his own second-in-command, and another who dealt with sentries and fatigue parties among other things.

The 80 men of each century were divided into 10 sections, each consisting of eight men, who shared a tent and mule and probably made up a mess.

The legion was no more immune to bureaucratic needs than the modern regiment, and a considerable headquarters staff existed to deal with all the paper work. The senior officers all had personal aides, and the legion had a regular staff of clerks and orderlies who operated under the direction of an adjutant. Each century even had its own office staff to deal with records, all of which gave the literate recruit an edge in promotion. Finally, there were the standard bearers, who were chosen from among the regular troops, and dozens of specialists — surveyors, armorers, carpenters, musicians, doctors, etc. — collectively termed *immunes*, because they were normally exempt from fatigues and other routine duties.

1. Roman *triarius*
2. Roman *hastatus* or *princeps*
3. Roman light infantry



Richard Hook/Osprey Publishing

Roman soldiers of the 1st Punic War, c. 264

The introduction of pay is attributed to M. Furius Camillus, hero of the war with Veii, who is also credited with the change to the manipular legion. That, however, was more probably a development of the later fourth century, made as the Roman military reacted to changing circumstances by altering its formations and tactics. Rome's wars of the fifth and most of the fourth centuries were fought for the most part on the coastal plain, an area well-suited to the use of the rigid and cumbersome phalanx. But matters became more difficult when the army had to venture into the hills to fight the Hernici or Volsci, and the phalanx proved completely inadequate when Rome began a series of wars against the Samnites (326–304 BC, 298–290 BC), who inhabited the mountainous regions of central Italy. The Romans, who possessed a surprising military flexibility for so extremely conservative a people, replaced the army of the centuries with a more elastic organization, the manipular legion.

Unlike the Servian army, the new formation consisted of tactical sub-units — maniples — which could to a degree maneuver independently. The exact form of the manipular legion evolved over the course of the third century BC. In the ideal legion of 4,200 men, there were 3,000 heavy infantry, normally arranged in three lines: in front were 1,200 *hastati*, the younger men; behind them 1,200 *principes*, those in their prime; and in the rear 600 *triarii*, the older vets. Each line was divided into 10 maniples of two "centuries" (now a unit designation and not necessarily 100 men).

Diet & Medical Care

The dangers inherent to his profession aside, the Roman imperial legionary probably enjoyed a healthier life than most civilians of his time, particularly those living in the Empire's cities. Selected in the first place for his sound physical condition, the soldier was kept in good shape by constant and rigorous training, a concern for sanitation, and a regular and sensible diet.

A modern soldier might not find that diet too pleasing, however, since its main component was grain, eaten as porridge, bread or hard biscuits. The only acceptable grain was wheat; barley was issued to units as a mild punishment. This was supplemented by vegetables, fish where available, and some meat, obtained both from cattle and wild game. But the cereal was central to the soldier's diet and dear to his heart: when discussing Corbulo's eastern campaign in AD 60, Tacitus adds an all-meat diet to the list of ills suffered by the army in Armenia. As for beverages, wine was consumed when it was available, but normally the legionary drank vinegar mixed with water.

The traditional Roman concern for hygiene and sanitation certainly had its impact on their military, and in this area the legions might have served as a model for every western army until the late Victorian era. While

they could not of course have understood the mechanisms involved, the Romans were well aware there was a close connection between disease and human waste. A clean water supply and efficient waste disposal were thus a serious concern even in the temporary marching camps, and in the permanent forts and encampments the Roman talent for hydraulic engineering came into its own. Virtually every fort had baths, usually involving a series of pools at different temperatures, and typically the dirtied water was used to flush the waste system.

Ironically, the common soldier probably received the best medical care available in the empire. A career as an army doctor brought neither high status nor high pay, and thus did not attract the famous physicians. That meant the troops were generally spared the cutting edge of classical medicine, with its superstitions and incorrect theories. The sick legionary would certainly have his own superstitions, but he was likely to receive more common-sense treatments and medicines from his camp doctor than his wealthy civilian counterparts. In the areas of anatomical knowledge, trauma care, and surgery, the experienced army physician was probably unequalled, and not until the late 19th century could a wounded soldier expect substantially better care.

In standard deployment, the maniples were lined up with intervals between them, and those of the second and third lines were stationed behind the gaps in the line in front, thus creating a checker board pattern. The remaining 1,200 troops were light infantry, who acted independently of the maniples, but were apparently attached to them for administrative purposes. Ten cavalry squadrons of 80 horsemen each were also brigaded with the legion and generally deployed on its flanks during battle.

All the heavy infantry were equipped with helmet, greaves, breastplate (chain for the wealthier) and a large oval shield about four feet in length. The *triarii* retained the thrusting spear, but the *hastati* and *principes* carried two throwing spears or *pila*, designed so the iron shank would either bend or break away from the shaft on impact, rendering the weapon useless and encumbering the enemy's shield. The primary weapon of these legionaries was the *gladius*, a short double-edged thrusting sword. The light infantry wore little or no armor and carried a sword, small round shield and javelins.

In a typical set battle, the light infantry would swarm in front of the heavy infantry, shower the enemy with javelins, and retreat back through the gaps in the line. The *hastati* would then throw their *pila* and close to engage with the sword. If they were hard-pressed, they could also move back through the gaps, allowing the second line to take over, or the *principes* could themselves advance to fill the breaks in the front line. The *triarii* formed a final, steady line.

The adoption of the *pilum* and short sword as primary armament required the new formations to be more open than the old shoulder-to-shoulder phalanx, and each legionary now had about a yard of frontage. The existence of independent sub-units, the maniples, eliminated most of the brittleness of the phalanx, wherein the lines had to be kept intact at all costs, and allowed the legion to deal more effectively with broken terrain. The new system also made it possible to deal with local crises and exploit opportunities by moving maniples around in the midst of battle. But the fact that the *triarii* still used the thrusting spear well into the second century shows how grudgingly the conservative Romans could be when it came to abandoning old ways.

It must be kept in mind that despite all these changes the Roman army was still a citizen militia, an army of amateurs. What saved them was the frequency of their wars and the long liability for service (from age 17 to 45 for active duty), which meant any given legion was going to have a high percentage of veterans. Add to that the Roman character, with its heavy emphasis on duty and ready obedience to authority, and the result was an army of experienced and disciplined amateurs.

The legions were usually strengthened by an equal number of allied Italian troops, who fought

under Roman officers and increasingly in the Roman fashion. Rome's gradual conquest and unification of the Italian peninsula thus provided a growing base of military manpower, and more than anything else it was that manpower that defeated Hannibal.

But Rome's successes and the growth of her power began to strain a military that was still in essence a short service citizen militia. Beginning with the First Punic War (264–241 BC), the Romans were increasingly fighting for longer periods and much farther afield, and despite the Senate's preference for indirect control through client states rather than direct provincial rule, the city's standing military commitments grew. Gone were the days of fighting Italian militias and tribal levies; the second century BC was filled with wars against the professional armies of the Hellenistic east.

The switch to the short sword also pushed the army toward greater professionalism, since it was a much more skill-dependent weapon than the old

A Career in the Legions

The careers of hundreds of soldiers of the empire are known from their tombstones, but perhaps the best known is that of Spurius Ligustinus, a legionary of the middle Republic. The account he gives of himself in Livy is probably true, but even if not, his story is nevertheless typical of many in the second century BC and shows how the one-time citizen militia was evolving toward a long-service professional force.

My father left me an acre of land and a little hut, in which I was born and raised, and I live there still...I became a soldier during the consulships of P. Sulpicius and C. Aurelius [200 BC]. In the army that was sent to Macedonia, I served for two years as a private against King Philip [V]; in the third year, because of my bravery, T. Quinctius Flaminus made me a centurion of the tenth maniple of hastati. When after the defeat of Philip and the Macedonians I had been returned to Italy and discharged, I immediately went to Spain to volunteer with the consul M. Porcius [Cato the Censor; 195 BC]. This commander judged me worthy to be appointed centurion of the forward first century of hastati. I enlisted for the third time in the army that was sent against the Aetolians and King Antiochus [III; 191 BC]. I was appointed by M. Acilius centurion of the forward first century of the principes. With King Antiochus driven out and the Aetolians defeated we were brought back to Italy, and I then twice served in legions that campaigned for a year. Then I served twice in Spain, once when Q. Fulvius Flaccus was praetor [181 BC] and again when T. Sempronius Gracchus was praetor [180 BC]. I was brought home by Flaccus with others who because of their bravery he brought to his triumph from the province; because Gracchus requested, I returned to the province. Four times within a few years I was primus pilus; 34 times I was rewarded by my commanders for bravery; I have received six civic crowns. I have served 22 years in the army and am over 50 years old." (Livy XLII.34.2–11)



Ronald Embleton/Osprey Publishing

1. Legionary infantryman, late Republic period
2&3. Legionary infantrymen, late Augustan to Tiberian period

thrusting spear and the shoving match tactics of the phalanx.

Roman Revolution (133-27 BC)

The growth of Roman power put a strain not only on the legions, but on the Republic itself. The Senatorial class was corrupted by the tremendous wealth afforded by the empire, and the government proved unable to deal with necessary change. The land reform attempt of the elder Gracchus in 133 BC ended in the first serious political violence since the fall of the monarchy. Gracchus' failure led to growing extremism and violence on all sides, and the army was drawn into the political arena to participate in the collapse of the Republic and the establishment of autocracy.

One particular problem that faced the army in the late second century was the dwindling supply of eligible recruits. The shortage was in a sense artificial, since there were actually plenty of able-bodied Romans around. The problem lay in the fact there was still a minimum property qualification for service in the legions, a carryover from before the introduction of pay, and a reflection of old ideas about military service and social status. This qualification excluded the very poor and placed

the burden on the small freeholder or yeoman farmer. Those people were, however, disappearing because of massive demographic changes in Italy in the wake of the Second Punic War. Still, the Senate refused to eliminate the qualification and tap the growing numbers of dispossessed farmers and urban poor.

That was the situation confronting C. Marius in the last decade of the second century BC. In raising troops for the Jugurthine War (111-106 BC) and German invasions (102-101 BC), he ignored the property qualification and the unpopular conscription and instead sought volunteers from among the poor, promising spoils and glory to get them. The minimum property level had been successively lowered, and a decade earlier the state had taken complete responsibility for equipment, but this was the decisive change. Henceforth military service was not a citizen duty, but a career opportunity, particularly for the poor. By creating what was in effect a volunteer army, Marius took the last big step toward the professional, long-service military Rome increasingly needed.

Unfortunately for the Republic, Marius had also created the basis for the client army, more loyal to its commander than to the state. Any army, especially a volunteer force raised by the commander himself, is naturally inclined toward devotion to a successful leader, but this can have disastrous consequences if the government is in turmoil and the general has political aspirations.

During the last century of the Republic, the government was indeed in turmoil, as various groups challenged the dominance of the Senatorial oligarchy, and every Roman general was by definition involved in politics, since it was only the highest elected officials, the consuls and praetors, who had constitutional authority to command troops.

The issue of discharge bonuses aggravated the situation. Bonuses, usually dispensed as pieces of land or cash payments, had traditionally been awarded to soldiers after long campaigns. But the practice had never been regularized, and after each war it was necessary to pass a specific bill through the assembly authorizing disbursement. That had formerly been no problem, but with political stability crumbling and army commanders such as Marius increasingly at odds with the Senate, the legionary more and more looked only to his commander to secure his due. A patron-client relationship was thus forged between a general and his men, he being obliged to remain in politics to fulfill his promises to them, they, as veterans, to support him politically to insure his success.

Marius also undertook a number of organizational reforms. His campaigns against the Germans had shown the maniple of 120-160 men lacked the size and mass to deal effectively with the all-or-nothing onslaughts of the northern barbarians. He therefore replaced it as the legion's combat unit with the cohort. A full-strength legion of 5,000-

6,000 would have 10 cohorts, each consisting of six centuries, which now became important units. The old system of three lines in checker board formation was no longer used, and the light infantry were done away with altogether. The entire legion was now composed of heavy infantry, uniformly equipped with helmet, chain-mail cuirass, shield, short sword, and *pilum*, the last of which was also improved by Marius.

Appropriately for what was rapidly becoming a professional army, Marius also established rigorous training procedures, setting the high standards of fitness and skill that would distinguish the legionary from his opponents for several centuries to come. The most skilled veterans were given command of the centuries, and like the sergeants major in any professional army, these Centurions were the men who really won Rome's battles.

To reduce the baggage train, Marius compelled his men (who became known as "Marius' Mules") to carry 80-100 lbs. of equipment: arms, armor, bedroll, cloak, cooking/mess kit, rations, earth-moving basket, entrenching tools and a couple of stakes for the palisade built around the camp at the end of every day's march.

In recognition of their professional standing, each legion was given an eagle standard, which symbolized the unit's corporate identity in much the same way regimental colors would do later in the British army.

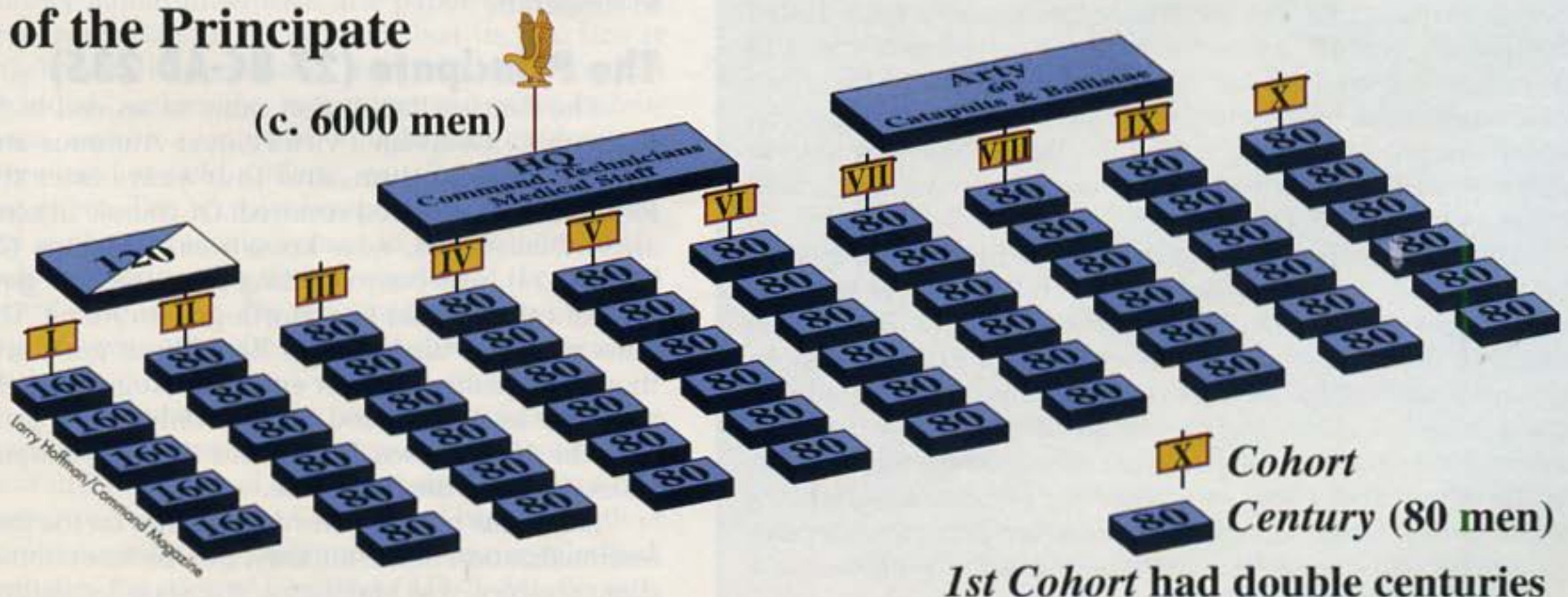
Marius' internal reforms had the most long lasting effects, but it was his new recruiting practices that had immediate impact. Marius only used his veterans as "campaign workers," toughs who could intimidate voters and do violence to the opposition, but within two decades of the reforms his opponent and successor, L. Cornelius Sulla, actually occupied Rome with his army and subsequently fought the Republic's first civil war.

The Order of March

The historian Josephus provides a description of the Roman order of march in his account of Vespasian's advance into Galilee during the First Jewish Revolt.

But Vespasian, impatient to invade Galilee himself, now set out from Ptolemais, after drawing up his army for the march in the customary Roman order. The auxiliary light-armed troops and archers were sent in advance, to repel any sudden incursions of the enemy and to explore suspected woodlands suited for the concealment of ambushes. Next came a contingent of heavy armed Roman soldiers, infantry and cavalry. They were followed by a detachment of 10 men from each century, carrying their own kit and the necessary instruments for marking out the camp; after these came the pioneers to straighten curves on the route, to level the rough places and to cut down obstructing woods, to spare the army the fatigues of a toilsome march. Behind these Vespasian posted his personal baggage and that of his lieutenants with a strong mounted escort to protect them. He himself rode behind with the pick of the infantry and cavalry and his guard of lancers. Then came the cavalry units of the legions; for to each legion are attached 120 horse. These were followed by the mules carrying the siege towers and the other machines. Then came the legates, the prefects of the cohorts and the tribunes, with an escort of picked troops. Next the ensigns surrounding the eagle, which in the Roman army precedes every legion, because it is the king and bravest of all birds; it is regarded by them as the symbol of empire, and, whoever may be their adversaries, an omen of victory. These sacred emblems were followed by the trumpeters, and behind them came the solid column, marching six abreast. A centurion, according to custom, accompanied them to superintend the order of the ranks. Behind the infantry the servants attached to each legion followed in a body, conducting the mules and other beasts of burden that carried the soldiers' kit. At the end of the column came the crowd of mercenaries [that is, the rest of the auxiliaries], and last of all for security a rearguard composed of light and heavy infantry and a considerable body of cavalry. (Josephus, The Jewish War III. 115-126)

CLASSIC LEGION of the Principate



In the next half-century, towering figures such as C. Julius Caesar and M. Antonius would use their client armies to tear the Republic apart, but it should not be concluded the Roman soldier had

Basic Training

Training in the earliest Roman legions probably didn't extend beyond the occasional muster to practice forming the phalanx, since in battles that were essentially armed shoving matches discipline and stamina mattered more than training. Once the switch was made to the manipular legion and the short sword, training rapidly grew in importance, both because the tactical maneuvers made possible by the new structure required trained men to execute them and because the short sword was a much more skill-dependent weapon than the old thrusting spear.

A major innovation came at the end of the second century BC, when the weapons training practices of the gladiatorial schools were introduced to the army by some commanders. This development ran into the usual conservative resistance, but success made them more or less standard by the end of the Republic.

Physical training was the first order of business for the recruit, and it remained a vital part of his routine throughout his career. The regimen included running, jumping, swimming (if feasible), tree-felling, ditch-digging, and especially marching. A trained legionary thought nothing of making a 20-mile march with a 60-lb. load and then building a camp.

The weapons training of the legions was already the stuff of legend in antiquity: "Indeed, it would not be wrong to say that their exercises were bloodless battles and their battles bloody exercises" (Josephus *The Jewish War* III.75).

The initial stage of training involved using a special wicker shield and wooden sword, each weighing twice what the regular weapons did. The recruit first fought against a six-foot stake planted in the ground, practicing the basic techniques of fighting with shield and short sword, and learning particularly to use the point, rather than the edge of the weapon. He also practiced hurling an overweight *pilum* at the same stake.

Once the novice soldier mastered the basics, he advanced to stake fighting with the normal weapons, and finally to combat drills with a live adversary (presumably with dulled swords). So important was this training considered that drill instructors received double rations, while soldiers who didn't attain minimum proficiency were punished by being given barley instead of wheat. Only when the soldier was able to pass a proficiency test before a senior officer was his wheat ration restored.

Until the Anarchy, the standards of fitness and skill in the Roman army were tremendously high, but there was one major regional disparity during the Principate. Because, it seems, of the climate and the availability of urban fleshpots, legions stationed in the east for any length of time almost always needed stiffening by the addition of western units before any major campaign. Forces stationed on the Danube, on the other hand, had a reputation for extreme toughness, a result of the harsh climate, the relatively primitive frontier conditions, and the constant skirmishing with the Germans.

completely surrendered his patriotism to mercenary interests. The legionaries of Sulla and later leaders were in part motivated by personal interests, especially the fear of losing to other soldiers opportunities for choice campaigns and the attendant spoils if their general were politically unsuccessful. But the average trooper apparently remained basically loyal to the state, and to a great degree had to be convinced his leader was engaged in saving Rome. Not for another three centuries did the legions become completely corrupt and venal and follow whoever promised higher pay and easier conditions of service. These men were, after all, Romans — and their sense of duty took a long time to die.

Another military development from the time of Marius and Sulla grew out of the Social War (90–88 BC), when virtually all Rome's Italian allies revolted. The rebellion was brought on by the Senate's refusal to seriously consider the issue of granting citizen rights to the allies, and it ended with the extension of full citizenship to most of Italy. Italian manpower was thus made fully available to the legions, where it was increasingly needed, while the auxiliary role previously played by the allies was taken over by forces raised in the provinces outside Italy. These auxiliaries made up the light infantry, missile units and cavalry the legions themselves lacked.

The Roman army didn't change substantially during the death throes of the Republic. The number of legions grew dramatically as the various leaders jockeyed for power and ultimately fought one another in two massive civil wars, but the actual size of each legion was usually well below its paper strength. Caesar's army in Gaul typically went into battle with legions averaging only 3,000–4,000 men, the result of casualties, competition for recruits, and especially the growing practice of detaching cohorts for independent duty. The same period also saw, particularly in Caesar's army, the increasing use of fieldworks, a natural offshoot of the Roman army's traditional expertise in siegecraft.

The Principate (27 BC-AD 235)

The Roman Revolution came to an end in 31 BC with C. Octavian's victory over Antonius and Cleopatra at Actium, and four years later the Republic was declared restored. Of course, in actuality, Octavianus, now known as Augustus (27 BC–AD 14), was busy building the autocratic government that would henceforth govern Rome. The autocracy was disguised in Republican garb, and though in reality the first emperor, Augustus held no office and presented himself only as the *princeps*, the "first citizen." From this the early Empire takes its name: the Principate.

Augustus put the finishing touches on the professionalization of the military, but his most immediate concern was stabilizing the state by getting

the army back out of the political arena. In effect, this meant permanently securing the overall command that became his with the defeat of Antonius, but doing so without making it any more obvious the restored "Republic" was in fact a military-based autocracy. He succeeded by designating as "imperial" those provinces with the bulk of the military forces in them and placing them under direct control of the *princeps*, thereby avoiding the political stigma of assuming direct command. The remaining provinces were "Senatorial," and were governed by means of the traditional mechanisms.

Augustus was thus able to command the legions through legates, a practice that dated back to the Revolution. Political considerations were typically more important than military abilities in their selection, and the legates had political careers to get back to, but the process did allow for the recognition and retention of talented leadership. In any case, even the greenest legate-general could rely on his centurions, the now completely professional corps of noncoms who actually commanded the troops. Each legion also had six military tribunes, young and generally inexperienced members of the upper class, who served mainly as staff officers.

The officer class apart, Augustus completed the professionalization of the army. The terms of service were regularized (20 years), and the discharge bonus was guaranteed by the state. A specific military treasury, funded initially by inheritance and auction taxes, was created to insure regular pay, but in practice periodic contributions from the emperor's privy purse were needed to supplement the fund. With the army now a standing garrison force, each legion acquired a permanent number and in most cases also a nickname, further enhancing their professional stature.

The structure of the legion had changed little since Marius' reforms. There were 10 cohorts, each divided into six centuries of 80 men, except the first cohort, which had five double-strength centuries, a practice apparently begun by Caesar. With sundry supernumeraries, the paper strength of a legion was about 5,200 men, but in practice it might swell to as many as 6,000. Each legion included blacksmiths, carpenters and other technicians, and an average of 50 light catapults, which were used as field artillery, usually with devastating effect. The recruits were still Roman citizens, but as the citizenship spread to provincial municipalities during the first century AD, fewer and fewer were Italian. (By the second century AD, the legions were apparently less than one percent Italian.)

Augustus also organized the auxiliaries along more rational lines, establishing more or less permanent units in place of the provincial levies that had earlier been raised on an as-needed basis. Length of service (usually 25 years) and pay were regularized, and after the reign of Claudius (AD 41-54), the aux-

iliary trooper could expect, as an extra inducement, to receive citizenship upon discharge.

The auxiliaries were organized into cohorts of infantry, squadrons of cavalry, and mixed cohorts of cavalry and infantry, and all were commanded by Roman citizens, most of whom by the end of the first century BC were coming from Italian and provincial municipalities. Equipment varied tremendously, according to national origin and military specialty, but much of the infantry came to

Artillery

The Roman army regularly used torsion artillery, which derived its motive power from twisting skeins of hair or sinew. These devices fell into two basic categories, which for convenience may be called the ballista and the catapult, though these terms were used more or less interchangeably by ancient authors.

The ballista was essentially a large crossbow in which the separate arms of the bow were inserted into an upright bundle of hair; pulling the arms back twisted the bundle and thus stored the energy to shoot a bolt or rock. The catapult was generally much larger, with a single rock-hurling arm inserted in a horizontal bundle, which was twisted when the arm was pulled down for loading. When released, the arm swung up to the vertical and hit a bar, and the stone was on its way.

Having only one arm, the catapult was easier to build and use (the two arms of the ballista required constant "tuning"), but lacked the accuracy of the ballista. Catapults were used in sieges, where they could pound a wall or gate with fairly heavy stones. At the siege of Jerusalem in the first century AD, legion catapults hurled 55 lb. stones over 400 yards, and machines that threw 100 to 200 lb. stones were common. In the late Roman army the standard catapult was called a "wild ass," because of the way it "kicked" when the arm struck the bar.

Ballistae came in all sizes, but in general they fired lighter projectiles than catapults. They were used in sieges mainly to clear the walls of defenders, but they also served as field artillery, valuable for softening up the enemy line before the forces engaged. In the Roman army the smaller ones were known as "scorpions," and fired bolts a foot or more in length up to 300 yards. By the time of Trajan, the army possessed *carro-ballistae*, which were scorpions mounted on mule-drawn carts.

The standard artillery complement of a legion, if there were one, is not known, though Vegetius, writing at the end of the fourth century AD, says each century had a *carro-ballistae*. Since it had its own cart, the *carro-ballistae* were apparently carried intact, but other small machines were probably disassembled for transport. Large catapults were built on the spot, only the metal sections being carried on the march. Such would also have been the case for the sheds, towers, rams, screens and other equipment necessary to any siege.

Torsion artillery was invented by the Greeks, but it reached the peak of its development and use under the Principate. Before the invention of firearms with rifled barrels, only the Welsh longbow could begin to compare with a legion ballista in terms of accuracy, range and rate of fire.

resemble the legionaries, for whom they might at times serve as a cheaper substitute.

Of far less military, but great political, importance was the establishment of the Praetorian Guard. The ultimate origins of the Guard stretch back to the Republic, probably to P. Cornelius

Scipio Aemilianus, who was escorted in Spain by a bodyguard of 500 soldiers. Marius, Caesar and Antonius all had military guards, and Augustus, though having a personal bodyguard of Germans, decided to organize a permanent force whose purpose was to secure the person of the *princeps*.

Soldiers' Pay

The Roman army began receiving pay during the war with Veii at the end of the fifth century BC, when campaigns became long enough that the citizen soldiers were having increasing difficulty supporting themselves in the field. No reliable information on pay is available until the mid-second century BC, however, at which time it appears a legionary received an annual rate of 180 *denarii*, which dropped to 112.5 when the *denarius* was revalued at the end of the century. This was doubled to 225 *denarii* by Caesar, then increased to 300 *denarii* by Domitian more than a century later. Not until Septimius Severus was there another pay raise, probably to 450 *denarii*, but by then inflation was bad enough that his successor Caracalla raised it again, to 675 *denarii*. After that, rampant inflation and the fiscal problems of the Late Empire rendered fixed pay rates meaningless, and the troops were increasingly paid in kind.

These rates represent base pay, and those with any rank would have earned some multiple of these figures. A centurion, for example, may have received as much as five times that of a man in the ranks, and the *primus pilus*, who was the senior noncom in the legion, got quadruple that of the ordinary centurion. All ranks in the Praetorian cohorts received higher pay than their counterparts in the field army, with a ratio of 10:3 established in Augustus' reign.

At the other end of the spectrum were the auxiliaries, who were certainly paid less than the legionaries, though it is hard to generalize because of their more complex pay structure. The auxiliary foot soldier probably earned 100 *denarii* in the period from Domitian to Severus, and this appears to have also been the base pay of a sailor in one of the fleets.

Like the modern worker, however, the soldier did not actually receive all his pay. Instead, in keeping with a practice that went back at least to the second century BC, much of it was deducted, as revealed in Percennius' speech to mutinous legionaries in AD 14: "Body and soul are valued at 10 *asses* (16 *asses* = 1 *denarius*) a day; from this we must buy clothes, weapons and tents; from this we must bribe centurions and buy release from fatigues."

The bribing of noncoms aside, the official stoppages could indeed add up, as demonstrated by the surviving pay accounts in the table below of two soldiers stationed in Egypt in AD 81.

Since the men were stationed in Egypt, a Greek area, their pay was figured in *drachmae* (4 Egyptian *drachmae* = 1 *denarius*), which means they were receiving each pay period only 62 *denarii*, rather than the expected 75. Almost certainly the missing 13 *denarii*

were paid out in cash and thus represented their pocket money. The fact the clothing deduction is not a constant explains the absence from the accounts of the other two stoppages mentioned in Percennius' speech, weapons and tents: a soldier was charged for these items only when they needed replacement, which would have been infrequently. Burial club contributions went toward covering a soldier's funeral expenses.

In addition to his regular salary, a soldier could also look forward to his discharge bonus and to the occasional donative, especially upon the accession of a new emperor. In the Principate these special peacetime payments replaced the traditional distribution of booty following successful campaigns, thus somewhat easing the pressure to pursue an aggressive foreign policy. Unfortunately, the donative quickly became a mechanism for insuring or buying the loyalty of the army, particularly the Praetorian Guard. This culminated in AD 193 in the tragicomedy of the Guard auctioning off the empire to M. Didius Julianus for 6,250 *denarii* per man, almost 10 years' pay for the ordinary legionary of the time. A soldier was, incidentally, required to put half of any donative in the legion's bank.

It is pointless to attempt to express a soldier's pay in terms of modern currency; purchasing power, rather than value in gold or silver, is the only meaningful measure. It has been estimated a legionary could live comfortably on only 5/7 of his salary, and while there was occasional grumbling from the troops, the serious complaints typically centered on arrears of pay and other abuses, rather than the amount of pay. The telling fact is a military career remained attractive, even though in the quarter millennium from Caesar to Severus basic legionary pay increased by only a third.

Pay Period	Q. Julius Proculus			C. Valerius Germanus		
	I	II	III	I	II	III
Payment:	248	248	248	248	248	248
	Deductions					
Bedding	10	10	10	10	10	10
Rations	80	80	80	80	80	80
Boots	12	12	12	12	12	12
Annual Feast	20	-	-	20	-	-
Burial Club	-	4	-	-	4	-
Clothing	60	-	146	100	-	146
Total Exp.	182	106	248	222	106	248
Remainder	66	142	-	26	142	-
Prev. Balance	136	202	344	20	46	188
Pres. Balance	202	344	344	46	188	188

He created a guard of 4,500 infantry organized into nine cohorts, along with 90 horsemen in three squadrons, all under the command of two praetorian prefects. The Guard was an "elite" unit, its men serving only 16 years and earning three times the normal legionary pay, but it was not a crack combat unit. The Praetorian Guard had a political advantage in that it was stationed in and around Rome and was thus always the first on the scene, but it was no match for units from the field armies.

Perhaps the most important decision made by Augustus regarding military affairs was the unavoidable one to create a standing army to garrison the empire. Out of the 60 or so legions left from the civil war, he settled on an army of 28, which was reduced to 25 by the disaster in Teutoburg Forest in AD 9. The rather small size of this force — roughly 150,000 legionaries, matched by an approximately equal number of auxiliary troops — was dictated by available manpower, the cost to the imperial economy, and perhaps a desire to minimize the political threat a professional military represented.

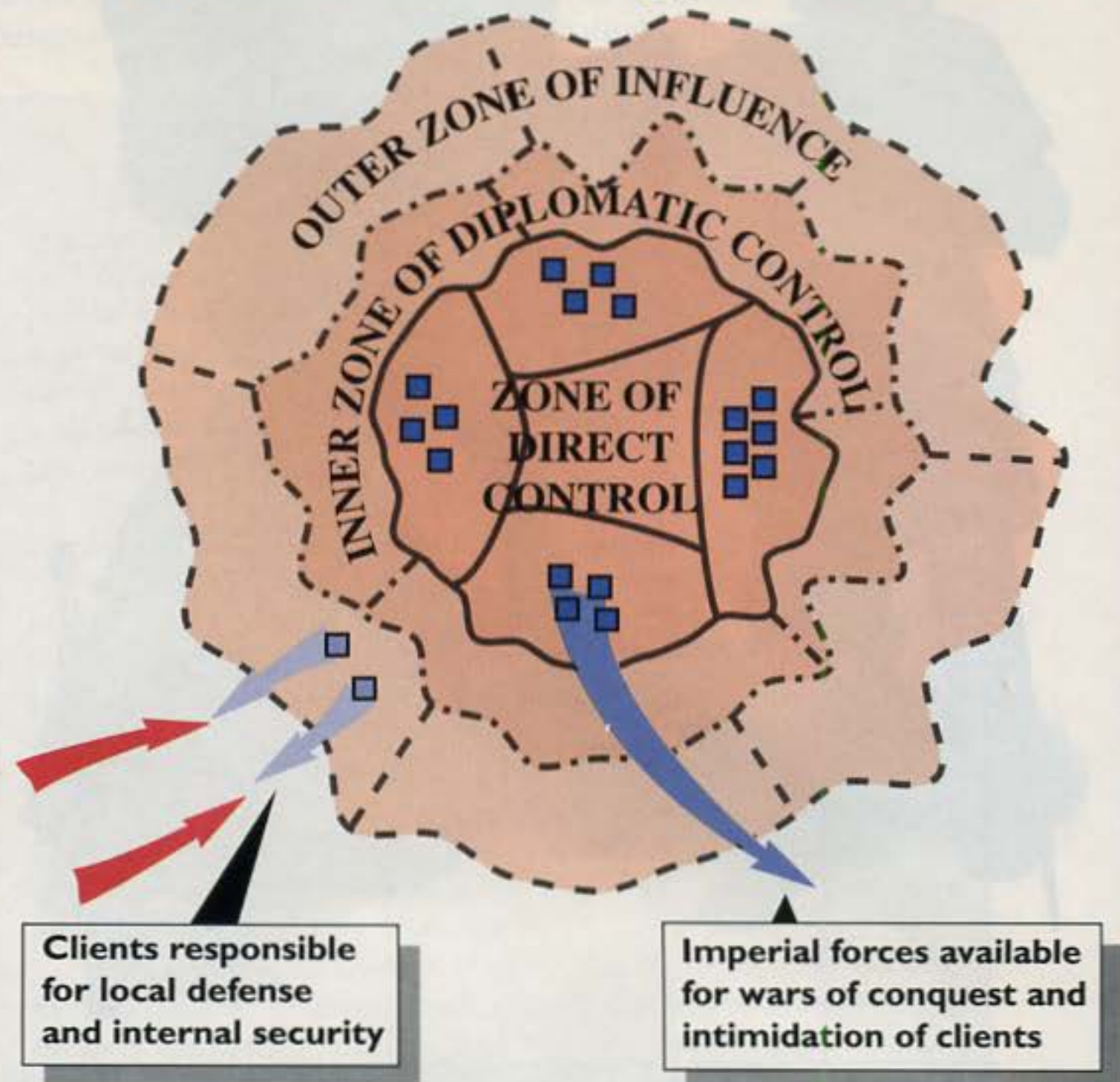
The deployment of the army reflected a continuation of the hegemonic approach of the Republic, which favored indirect control through client states, especially on the periphery of the provincial core. For the most part, the legions and auxiliaries were stationed just inside the provincial frontiers in widely spaced multi-legion camps chosen not as defensive positions, but as efficient staging areas for offensive thrusts. Though more concentrated in high-threat areas such as the Rhine-Danube frontier, the army remained in essence a mobile field force, committed not to defending territory, but to meeting and defeating any invader. A central or strategic reserve was eschewed because of the slow communications and the likelihood it would, like the Praetorian Guard, become a political nuisance.

Client states and tribes bore the burden of dealing with minor threats and provided some defensive depth in the event of major incursions. They bought more time for Roman forces to mount a counterattack and thus minimized the damage to provincial assets. The army concentrations also kept the clients in line and intimidated potential foes, though groups such as the Germans, who were not civilized enough to appreciate Roman power in the abstract, had to be periodically reminded with military campaigns. This system was extremely economical, defended large areas with relatively small forces, and still allowed the state the disposable forces necessary for threatening unruly clients or mounting offensive campaigns.

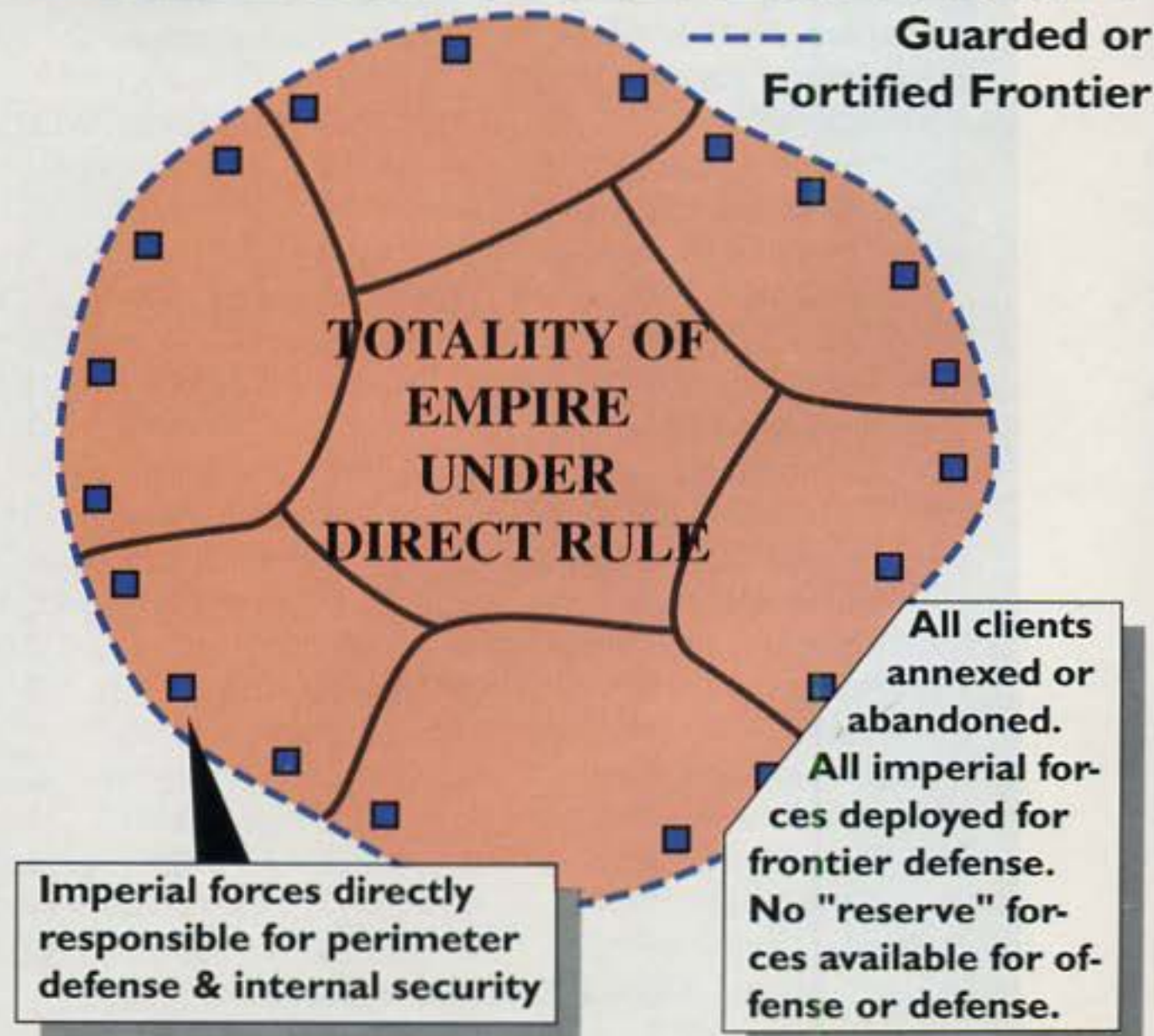
For two centuries following Augustus, the appearance and tactics of the legions did not change substantially. By the end of the first century AD, chain armor had been generally replaced by corselets made of metal plates held together by

HEGEMONIC EMPIRE

- Provincial Territory
- Client States
- Client Tribes
- Legions & Auxiliaries



TERRITORIAL EMPIRE



1. Cavalry Decurion, c. 200 – 300 A.D.
2. Cavalry trooper, c. 200 – 300 A.D.



Richard Hook/Osprey Publishing

Legion Deployment

This table shows the number of legions stationed in each province or provincial area at four points in the history of the Principate. Note how the Danube rapidly replaced the Rhine as the area of greatest threat.

Province	AD20	AD68	AD112	AD215
Nearer Spain	3	2	1	1
Upper Germany (R)	4	3	2	2
Lower Germany (R)	4	4	2	2
Britain	-	3	3	3
Italy	-	-	-	1
Raetia	-	-	-	1
Noricum (D)	-	-	-	1
Dalmatia (D)	2	2	-	-
Pannonia (D)	3	2	5	4
Moesia (D)	2	3	5	4
Dacia (D)	-	-	2	2
Galatia-Cappadocia	-	-	2	2
Syria	4	3	3	3
Judea	-	3	1	2
Mesopotamia	-	-	-	2
Arabia	-	-	1	1
Egypt	2	2	2	1
Africa	1	1	1	1
Total	25	28	30	33

(R) = Rhine, (D) = Danube

leather straps, and the oval shields had become rectangular, only to return to the oval shape in the late second century.

The auxiliaries, meanwhile, were becoming essentially a heavy infantry force, more and more like the legions in their training, equipment and make up. The revolt of Civilis and his Batavian auxiliaries (AD 69–70) led Vespasian (AD 69–79) to overturn the traditional policy, and auxiliary troops were subsequently brigaded in mixed units and stationed far from their homelands, thus losing their national character. To a degree their place was taken by other national units of irregular troops raised by Trajan (AD 98–117) for temporary duty. Hadrian (AD 117–138), and later Septimius Severus (AD 193–211), widely expanded the use of these militias and enrolled them as a permanent part of the military establishment.

The size of the army remained relatively stable until the third century. The number of legions had grown to 30 by the reign of Trajan, and was increased to 33 by Severus. What this meant in terms of absolute numbers is impossible to say with certainty, but under the Severan emperors (AD 193–235), the empire was defended by perhaps 400,000 troops of all kinds.

While the army and its tactics didn't change much under the Principate, the grand strategy of the empire certainly did. Probably because it was difficult to turn the Germanic tribes into reliable clients, the hegemonic system gave way under the Flavians to the more familiar territorial empire. The client states gradually disappeared and the provinces grew out to the limits of Roman power. Now well defined, the frontiers were laid out according to strategic principles and were increasingly marked by static defenses: forts, ditches, palisades, walls and, most importantly, lateral roads that allowed rapid movement of forces. Smaller, but increasingly permanent, camps replaced the multi-legion concentrations as forces were distributed more evenly along the frontiers.

The static defenses and their garrison units were intended to provide constant security against low-intensity threats and a support structure for the concentration of heavy forces that would operate offensively to meet major threats before they penetrated the frontier. The growing prosperity and Romanization of the empire, nurtured in the frontier provinces by this type of defense, allowed the army to concentrate on external threats, as the danger of internal, native revolts faded.

Major threats could thus be countered temporarily by shifting large numbers of troops without seriously endangering the security of the denuded areas. While not as flexible and economical as the hegemonic approach, this system still permitted the temporary concentration of forces for offensive operations at the strategic level, providing the empire with a weapon with which to keep its enemies divided.

The relationship between the Roman military and state also evolved during the Principate. Because of the reputation of Caesar and the work of Augustus, the army remained loyal to the Julio-Claudian house, even to the blatantly incompetent Caligula (AD 37-41) and Nero (AD 54-68), but in AD 68 that line became extinct. In a return to the civil war days, various parts of the army supported their own commanders as candidates for the purple, and after a year of struggle Vespasian emerged triumphant, establishing the dynasty of the Flavians.

Vespasian certainly understood who was responsible for his success and saw to it the army was well treated, though at the same time he maintained high standards of discipline and training. The great achievement of the Flavian emperors was to imbue the army with a sense of loyalty to the Principate, rather than to individuals or families within it. When Domitian (AD 81-96), who was popular with the legions, was assassinated, the army grudgingly accepted the Senate's choice of Nerva (AD 96-98), who was, however, quick to name as his successor a popular soldier from Upper Germany, Trajan.

The army remained loyal to the excellent emperors of the second century and only reentered politics with the murder of the worthless Commodus (AD 180-192). In a rerun of AD 68-69, the legions fielded three candidates, and after several years of war the victor was Septimius Severus. Like Vespasian, Severus understood the importance, both to himself and to Rome, of keeping the army satisfied, and he undertook a number of military reforms that began the process of making the military a privileged class in imperial society.

The Praetorian Guard had become so involved in the political game, auctioning off the empire to a wealthy senator while Severus was marching on Rome, that the new *princeps* disbanded the organization. But he promptly recreated the Praetorian cohorts, doubled their size to a 1,000 and opened their ranks to non-Italians, which in practice allowed him to pack the Guard with loyal soldiers from his Illyrian legions.

Since by this time the Guard had already become a prime source of new officers, giving the common soldiery access to the Praetorian cohorts helped further the democratization of the entire army, breaking down the traditional dividing line between officers and enlisted, Italian and non-Italian. Severus also broke with precedent by stationing a legion in Italy. This was a change motivated most likely by his desire to have reliable forces immediately at hand, but it was one that was nevertheless a further sign of the decline in Italy's special status within the empire.

Severus also dramatically increased legionary pay, and this was not so much an act of bribery as compensation for the ravages of inflation, since the soldiers had last received a raise a century earlier.

He also made it legal for soldiers to marry while with the eagles, thus giving official sanction to the liaisons the men had been forming with local women since the time of Augustus.

In addition to those measures, all intended to make military duty more attractive as a career, Severus gave attention to veterans, creating oppor-

The Marching Camp

One of the more familiar attributes of the Roman army was its practice of routinely building a fortified camp at the end of each day's march. Each legionary in fact carried as part of his kit entrenching tools with which to build the ditch and rampart, and even stakes for the palisade. The size of the camp varied according to the size of the force, but its layout was fixed by tradition and changed remarkably little over the centuries.

The site was selected by surveyors, who went ahead of the army to find an area sufficiently large, well drained, clear of obstructing growth and as close as possible to a source of water. To enable the troops to begin erecting it immediately upon their arrival, the surveyors marked out the entire camp, beginning with the location of the commander's tent, roughly at the center of the square. Together with the officers' tents, this constituted the headquarters, and before this ran a broad (at least 50 feet) road, which terminated at the side gates. A second wide road was laid out perpendicular to the first and led from the headquarters to the main gate; a rear gate was put in the side directly opposite.

The eight-man leather tents of the infantry were set out in lines and so arranged and spaced that the centuries could quickly and easily muster and the army form up to march out. Specific areas were also assigned for the tents and horses of the cavalry and for the wagons, supplies and market, and at regular intervals latrines were dug and ovens built. The whole camp was surrounded by a ditch, generally about a yard deep and wide, and a wooden palisade was set up on the rampart of excavated dirt. For this purpose each soldier carried two pre-sharpened, seven-foot stakes that could be lashed together with thongs.

The marching camp was not meant to be a fortified position; a shallow ditch and a flimsy fence would hardly mean much against a serious assault — it was in any case the practice of the army when attacked to march out and fight a battle in the open. What then was the point of expending all this time and energy at the end of each day's march, thus limiting the overall mobility of the legions?

In the first place, the camp protected the men from cavalry assault, and the clear space left between the palisade and the first line of tents provided some buffer against missile weapons. More importantly, the camp, with its orderly layout of tents, allowed the men time to form up and meet the enemy in good order in case of surprise attack. Perhaps equally importantly, there was the psychological benefit: it provided soldiers in hostile territory a sense of security and a reassuringly familiar environment in which to sleep. A protected perimeter, even one with such weak defenses, meant far fewer sentries were needed at night and that nothing short of a major assault could disturb the men's rest.

Legion Roster

What follows is a roster of the legions from Augustus to the Anarchy, including their names and the emperors under whom they were formed. The creation of new legions roughly matched the disappearance or disbandment of older units, so the total remained fairly constant, from 25 in AD 14 to 34 in AD 235. The numbers of the three legions annihilated in Teutoburg Forest in AD 9 — XVII, XVIII and XIX — were not used again, and the numbers XXIII and XXIX were never used.

- I Germanica (gained distinction in Germany) — pre-Augustan
- I Adiutrix pia fidelis (reserved, dutiful and steadfast) — Nero
- I Italica (raised in Italy) — Nero
- I Macriana (raised by Clodius Macer) — Nero
- I Flavia Minervia (raised by a Flavian, after the goddess Minerva) — Domitian
- I Parthica (raised in the east) — Severus
- II Adiutrix pia fidelis — Vespasian
- II Augusta (raised by Augustus) — Augustus
- II Italica pia (dutiful) — Aurelius
- II Parthica — Severus
- II Traiana fortis (raised by Trajan, strong) — Trajan
- III Augusta pia fidelis — Augustus
- III Cyrenaica (gained distinction in Cyrene) — pre-Augustan
- III Gallica (made up of Caesar's veterans) — pre-Augustan
- III Italica concors (harmonious) — Aurelius
- III Parthica — Severus
- IV Flavia firma (strong) — Vespasian
- IV Italica — Severus Alexander
- IV Macedonica (gained distinction in Macedon) — Augustus
- IV Scythia (gained distinction in Scythia) — pre-Augustan
- V Alaudae (lark, meaning great) — pre-Augustan
- V Macedonica — pre-Augustan
- VI Ferrata fidelis constans (iron-shod, steadfast and firm) — pre-Augustan
- VI Victrix (victorious) — pre-Augustan
- VII Macedonica Claudia pia fidelis (for loyalty to Claudius) — pre-Augustan
- VII Gemina (twin — made from two legions) — Galba
- VIII Augusta (reformed by Augustus) — pre-Augustan
- IX Hispana (gained distinction in Spain) — pre-Augustan
- X Fretensis (of the straits — from the naval war between Octavian and Sextus Pompeius) — pre-Augustan
- X Gemina — pre-Augustan
- XI Claudia pia fidelis — pre-Augustan
- XII Fulminata (lightning thrower) — pre-Augustan
- XIII Gemina pia fidelis — Augustus
- XIV Gemina Martia Victrix (after the god Mars) — Augustus
- XV Apollinaris (after the god Apollo) — Augustus
- XVI Flavia firma — Vespasian
- XVI Gallica (gained distinction in Gaul) — Augustus
- XX Valeria Victrix (gained distinction under Valerius Messalinus, or named by Claudius for his wife Valeria) — Augustus
- XXI Rapax (greedy) — Augustus
- XXII Deiotariana (raised by Deiotarus) — Augustus
- XXII Primigenia pia fidelis (after the goddess Fortuna Primigenia) — Caligula or Claudius
- XXX Ulpia victrix (raised by M. Ulpus Traianus) — Trajan

tunities for them in the growing civil service and excusing them from many civilian burdens. In this way the privileged status of soldiers came to extend beyond active duty into their civilian life.

Severus' reforms might well be seen as pandering to the soldiers, and there were in fact many instances of poor military discipline during his reign, but for all that he remained the master of the army, and the army remained proficient. But that was all about to change.

The Anarchy (AD 235-285)

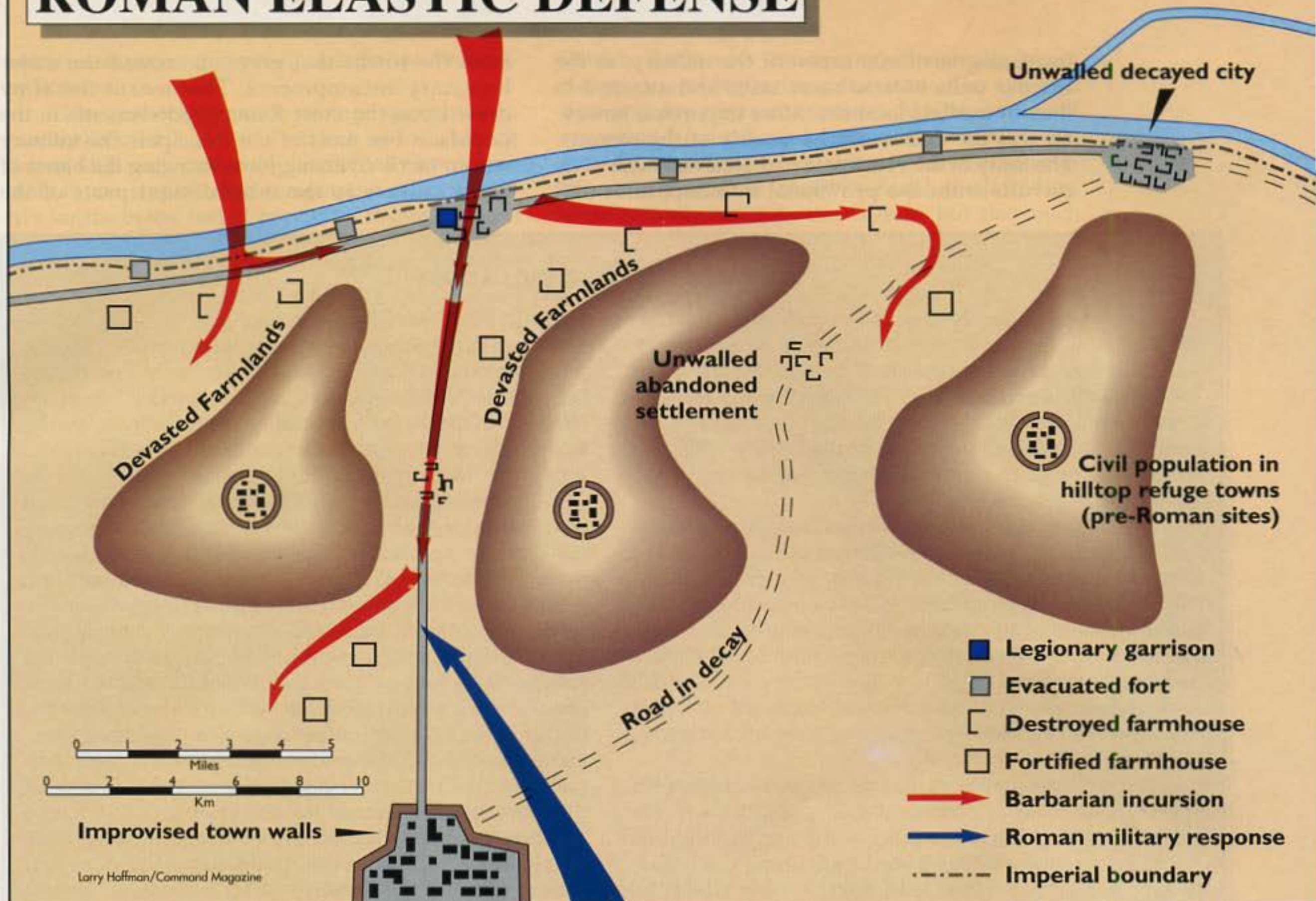
The Anarchy is the great watershed in imperial history. In the 50 years from the assassination of Severus Alexander (AD 222-235) to the consolidation of power by Diocletian (AD 284-305), there were some two dozen more or less legitimate emperors and dozens of would-be rulers, most of them military commanders. The era was virtually a half-century of civil war (also marked by significant barbarian incursions), during which the last vestiges of the Principate disappeared. The empire that replaced it, the "late empire," is often called the Dominate, because the Romans now had a *dominus* or absolute lord, rather than a *princeps* or first citizen.

The character of the Roman army changed dramatically, as it became deeply and permanently involved in the political system, undermining both the stability of the state and the defenses of the empire. On the other hand, it speaks extremely well of the discipline and professionalism of the imperial Roman military that it took two centuries for the army to reach such a state, even after the obvious lessons of AD 68-69.

During the Anarchy, the Roman military underwent its most serious changes since the adoption of the manipular legion, as the familiar heavy infantry began rapidly surrendering center stage to new cavalry units. The traditional weakness of the army in horse had always been especially felt on the eastern frontier, where Rome faced the mounted archers and heavy cavalry of the Parthians, and that situation became more acute with the appearance in AD 227 of the aggressive Sassanid Persian Empire. More importantly, the frequent and serious barbarian penetrations that resulted from the distraction of constant civil war required the existence of a highly mobile striking force. Perhaps most importantly, the security of the emperor demanded a fast and powerful force that could be employed to crush competitors quickly.

The first major cavalry corps was created by Gallienus (AD 253-268), but little is known about its composition. It included both light horse armed with missile weapons, with which the Romans had great success, and heavy armored cavalry with which they had no success. The political importance of this corps is easily seen from the fact so many of its commanders became emperors, and in a vain attempt to maintain loyalty, Gallienus

ROMAN ELASTIC DEFENSE



formed the cavalry officers and others into a household troop personally attached to the emperor.

The infantry, meanwhile, was going into decline. The legions were shrinking, the result of unreturned detachments and a chronic lack of replacements, as scarce resources were diverted elsewhere and wasted in civil war. Quality also sank rapidly with the breakdown of the training system and discipline in general, and it appears many of the "legions" became little more than light infantry formations, lacking the expertise and equipment to carry out traditional infantry tactics and combat engineering. The auxiliary units either faded into the legionary formations, disappeared altogether, or devolved into static frontier guards.

The grand strategy of the Principate, based on forward defense, could not survive in the conditions of the Anarchy, with the constant withdrawal and wastage of troops in internal struggles. Yet even had there been political stability, the military would nevertheless have faced dangerous new challenges. After centuries of confronting the Romans, the Germans were beginning to learn and were forming larger, more threatening coalitions that were no longer easily broken up by Roman diplomacy. That diplomacy also lost much of its

punch due to the decline of offensive Roman military power during the Anarchy.

At the other end of the empire, the Sassanid Persians quickly demonstrated themselves to be much better organized than the Parthians and much more ambitious when it came to expanding their domain westward. This emergence of major threats on two fronts would have in any case strained the old system, though probably not to the breaking point.

Given the new threats and the constant civil war, the empire had little choice but to adopt an elastic defense. Low intensity threats were dealt with by poor-quality frontier troops, but no attempt was made to stop the initial penetration of major invading forces. Rather, they were met inside — often deep inside — the empire by more mobile central and regional reserves, as Rome sacrificed territory for time to concentrate forces strong enough to defeat the invader. This strategy meant paying a high cost in ravaged provinces and damage to the infrastructure that ultimately supported the army, but it virtually insured the enemy would in the end be defeated and the empire preserved.

The very character of the Roman army changed rapidly during the Anarchy. In a phrase, it became less Roman. This was due in part to the

increasing territorialization of the military, as the frontier units became more static and attached to their immediate localities. More important, however, was the decline in the quality of the recruits. The army of the Principate had obtained most of its recruits from the provincial municipalities and

from the towns that grew up around the major legionary encampments. That meant the army drew upon the most Romanized elements in the populace. For most of the Principate the military was in fact a civilizing force, bringing the basics of Latin culture to the most distant parts of the

Rewards & Punishments

Beyond the material reward of booty or a donative, the Roman soldier could also expect to be awarded various decorations for distinguished service. In early years these awards were associated with specific acts of bravery: the civic crown for saving the life of a comrade; the wall crown for the first man over the enemy wall; and the grass or siege crown for distinguished service in rescuing a besieged army.

By the late Republic, however, these decorations had become more or less generic, specific to rank rather than deed. Crowns, including the gold crown introduced by the Emperor Claudius, were presented only to centurions and senior officers. The latter were also eligible to receive the silver spearhead and small silver-mounted standard. Privates had to be content with necklaces, armbands and embossed discs, all of which could be won repeatedly, signifying ever higher marks of honor.

The commanding general was of course eligible for special honors, all of them probably dating back to the early Republic. After a victorious campaign he might be saluted as *imperator* by his troops, and after a particularly spectacular victory (at least 5,000 enemy killed) he might be awarded a triumph, which involved a parade through Rome, or the lesser ovation, which involved a somewhat less elaborate procession.

This state of affairs changed with the establishment of the Principate, since as commander-in-chief of the army the Princeps alone was entitled to these distinctions (which is why he gradually became known as emperor — from *imperator*), though he often allowed them for members of the imperial family. In place of an actual triumph, the emperor might award a successful army commander (usually a provincial governor) the triumphal insignia, and to a legion commander the consular insignia. A victorious fleet commander could be awarded the naval crown.

Like their modern counterparts, these decorations were worn on dress parade and special occasions, and to judge from the inscriptions on tombstones they were a source of immense pride. Entire units might also be decorated, either with the same insignia, which would be displayed on the unit's standards, or with the grant of a special title.

Punishment in the Roman army could certainly be severe, but that aspect of military life has been generally exaggerated, especially by Roman writers, who tended to magnify most aspects of the old Republic. The legendary discipline of the legionary came as much from his Roman character, shaped by his family and civic life,

as it did from fear of punishment, and the most notorious punishments on the books, such as decimation, were carried out only rarely. The fact a strict disciplinarian such as Cn. Domitius Corbulo (died AD 66) was considered so remarkable strongly suggests that by the early Principate most Roman commanders were relatively more relaxed in their attitudes.

Desertion, mutiny and insubordination were all punishable by death, but it appears the circumstances of the crime were usually considered and lesser penalties were commonly substituted. Those included corporal punishment, fines and pay reduction, extra duty, demotion, transfer to a lower status service or unit, public humiliation, and dishonorable discharge. Though the last, with its loss of discharge benefits, was the most intimidating punishment, at least for the older vets, flogging was the one most despised and most often mentioned among the soldiers' complaints. It was generally carried out rather informally and on the spur of the moment, it seems, by the centurions, part of whose distinctive uniform was a kind of swagger stick, which was handy for this purpose. There was a notorious first century centurion, Lucilius, who had the nickname "Give-me-another," because he kept breaking his staff on his men's backs.

Entire units could also be punished for mutiny, battlefield desertion or insubordination. The most infamous penalty was decimation, in which every 10th man in the unit (usually a cohort) was stoned or beaten to death by the soldiers from the other units. But instances of this punishment are extremely rare, especially in the Principate. Punishing the innocent with the guilty was hardly conducive to recruiting, and in any case it wasn't often the crime and disgrace of the men in a particular unit would be so clear cut their comrades in the legion would be willing to execute them. Much more common punishments were reduced pay, being fed on barley instead of wheat, public disgrace (such as being forced to sleep outside the regular encampment) or disbandment, particularly if an entire legion were involved.

In the army of the early Republic, the commander in the field possessed the absolute power of life and death over his men, but by the time of the Principate capital cases had to be referred to the provincial governor (who might in fact be the army commander) or, in the case of senior officers, to the emperor. Lesser penalties could be carried out by the legion commander, and many punishments, including flogging, could be meted out on the authority of a centurion, who seem to have had a great deal of leeway in this regard.

empire and processing provincials into rudimentary Romans.

This situation began to change quickly with Caracalla's (AD 211-217) Edict of 212, which extended Roman citizenship to virtually every free male in the empire, thus removing a major incentive for the better sort of provincial to join the aux-

iliaries. But it was the Anarchy that really began the process of barbarizing the army. The constant demand for more manpower led to increased recruiting from the rural areas, and the ranks came to be filled with peasants untouched by Roman culture or any sense of loyalty to Rome. Such soldiers were not only much harder to train, but also much

The Standards

The standards were the equivalent of regimental colors for the Roman army, fulfilling functions similar to their 19th century counterparts. On the battlefield they identified units and marked rallying points, and movement orders were often given in relation to the positions of standards. It appears they were also used in connection with musical instruments to relay commands in the midst of battle: a horn would signal the men to look to their standard, which would be used to convey a basic instruction by means of some movement, such as "Follow me!" or "Extend the formation!"

Like the colors of Victorian-era regiments, the standards, particularly legion eagles, were also the focus of a unit's morale and the symbol of its honor. As such they consequently played a vital role, since in most professional armies the honor and reputation of a soldier's cohort or regiment has been at least as great a motivation to fight as "God, King and Country."

Examples abound, particularly from the early Republic, of generals hurling a standard into the enemy ranks to motivate their men, and there is the well-known incident of the eagle-bearer of Caesar's hesitant *Xth Legion* plunging into the British surf with the words: "Leap down, soldiers, unless you wish to betray the eagle to the enemy." (Caesar, *Gallic War* IV.25). To lose its eagle was the ultimate disgrace for a legion, and Augustus dispatched diplomatic and military missions to recover those lost by Crassus and Varus in the Teutoberg Forest.

The standards occupied a special place in camp, where they were the first thing set up, and in the Principate an entire cult grew around them. They were anointed and decorated on religious occasions, and soldiers would swear oaths on them. Anything unusual happening to the standards, especially the eagle, would immediately be read as an omen. If, for example, they stuck in the ground when being moved as camp was struck, the men might well refuse to budge.

The origin of the standards is obscure, but they probably developed from totemic animal standards carried into battle in the earliest days of Italian society. The pre-Marian legions are reported to have had five animal standards: the eagle, boar, horse, wolf and minotaur, but after Marius emphasized the eagle, the others disappeared. Henceforth, the main standard and symbol of each legion was a silver (later gold) eagle clutching a thunderbolt in its talons. But each legion would inevitably have other, purely ceremonial, standards as well. The most common were those bearing a portrait of the

emperor and those with figures of deities and Zodiac signs appropriate to the birthday of the legion or someone important to it. The eagle and the emperor's image were entrusted to the first cohort and were carried by two special standard-bearers, the *aquilifer* and the *imagifer*.

It appears that within each legion every maniple and perhaps each cohort had its own standard, carried by a *signifer*. (The maniple, which consisted of a pair of centuries, had no combat role after Marius, but traditions died hard in the Roman military.) The *signifer* was generally stationed between the two centuries of his maniple, and troops were thus often described as "before" or "behind" the standards.

The maniple standard was topped by the facsimile of an upright open hand, which might have something to do with the original meaning of *manipulus*, "handful." Below the hand was a crosspiece, to which wreaths or other unit decorations won by the maniple could be attached, and below that, affixed to the staff, were from four to six discs, the meaning of which remains unclear.

The legion also sported a standard that was in effect a flag, the *vexillum*, and one of these was actually found preserved in a grave in Egypt. It is a linen square, dyed red and about 20 inches on each side, and displays in gold the figure of Victory standing on a globe. This banner would have hung from a crosspiece on a staff, but its function is not understood. This type of standard was associated more with cavalry than infantry, but surviving depictions suggest an importance to the legions far beyond that of the small units of horsemen attached to them. They may have been the unit standard adopted by legion detachments, which were called *vexillationes*.

The auxiliary units also carried standards that served the same functions as those of the legions. They lacked the eagle and upraised hand of their legion counterparts, but were otherwise similar in form. The auxiliary standard-bearers, also like those in the legions, wore the traditional bearskin cloak (lionskin in the case of the Praetorians), which was probably another totemic carry over.

As suggested above, the standards were apparently used in connection with musical instruments. The *cornu*, a kind of giant French horn, and the *tuba*, a yard-long trumpet, were the battlefield instruments. The former was used to direct attention to the standards, and the latter to sound advances, retreats and other simple commands. Two other kinds of horns and a reed flute were added only for religious and ceremonial occasions.

easier to corrupt and lead in revolt against the state.

Finally, there was a growing recruitment of Germans, which naturally barbarized the army directly. In response to a critical manpower shortage, Marcus Aurelius (AD 161–180) had established a German militia just within the northern frontiers, trading land for military service and setting a precedent. Subsequent emperors, particularly during the Anarchy, recruited Germans for their warlike qualities, but the Roman military was no longer capable of Romanizing them. All of this was a harbinger of the future, when increasing reliance on Germans to defend the Western Empire would ultimately make them the masters of it.

The Dominate (AD 285-395)

The Anarchy came to an end with the ascent of Diocletian, a soldier-emperor of humble origin. In an attempt to restore stability, he created the tetrarchy, an arrangement that established a single emperor with a junior colleague in each half of the

empire. But the system soon collapsed into civil war when Diocletian abdicated in AD 305. The subsequent history of the fourth century was marked by alternating periods of civil war followed by some stability under a strong military leader, which meant that to a great degree the political conditions of the Anarchy persisted. The evolution of the military thus continued to be influenced by the needs of an insecure central government.

Under Diocletian and his successors, the military, which had grown to perhaps a half-million men, was organized into two very different forces: the *limitanei*, low grade static frontier garrisons, and the *comitatenses*, a better trained and more mobile field force, which itself contained an elite corps, the *palatini*.

The infantry units in both forces were still called legions, but any similarity with those of the Republic and Principate ended with the name. The formations of the late empire were much smaller, about 1,000 men for legions of the *comitatenses*, and

The Roman Navy

The first real need for a Roman navy came in the First Punic War, when Rome presumed to take on the strongest naval power in the western Mediterranean. Since the Romans were never comfortable with being at sea and had no real maritime experience, the allied Greek cities of southern Italy supplied the ships and crews, while Rome supplied the marines. Rome was ultimately able to launch about 160 vessels, compared to 130 Carthaginian, but what gave them the edge against Punic naval skill was their tactics.

More than anything else, a classical warship was like a giant racing scull: oars, shallow draft, flat keel and a narrow beam. The ship generally used by the Romans, the quinquereme, was about 120 feet long and 14 feet wide (excluding the outrigger) and was propelled in battle by some 170 oarsmen. The vessel was equipped with a ram, and ramming and sinking, which involved maneuvering, was the tactic favored by those with maritime skills, such as the Athenians and Carthaginians. For landlubbers like the Romans, the simpler approach of closing and boarding was the choice, and they actually developed new technologies to enhance their boarding tactics, as they attempted to turn sea battles into land combats.

The boarding tactics worked, and Rome quickly won control of the sea, losing more ships to weather than to the enemy. So disinterested was the Senate in maritime affairs, however, that the Republic never established a permanent navy, instead only drawing ships and crews as needed from the Greek allies and cities of the eastern Mediterranean. But once Carthaginian and Greek naval power had been eliminated, this lack of concern allowed piracy to grow to the point that by the 60s BC such fleets were actually raiding Italian

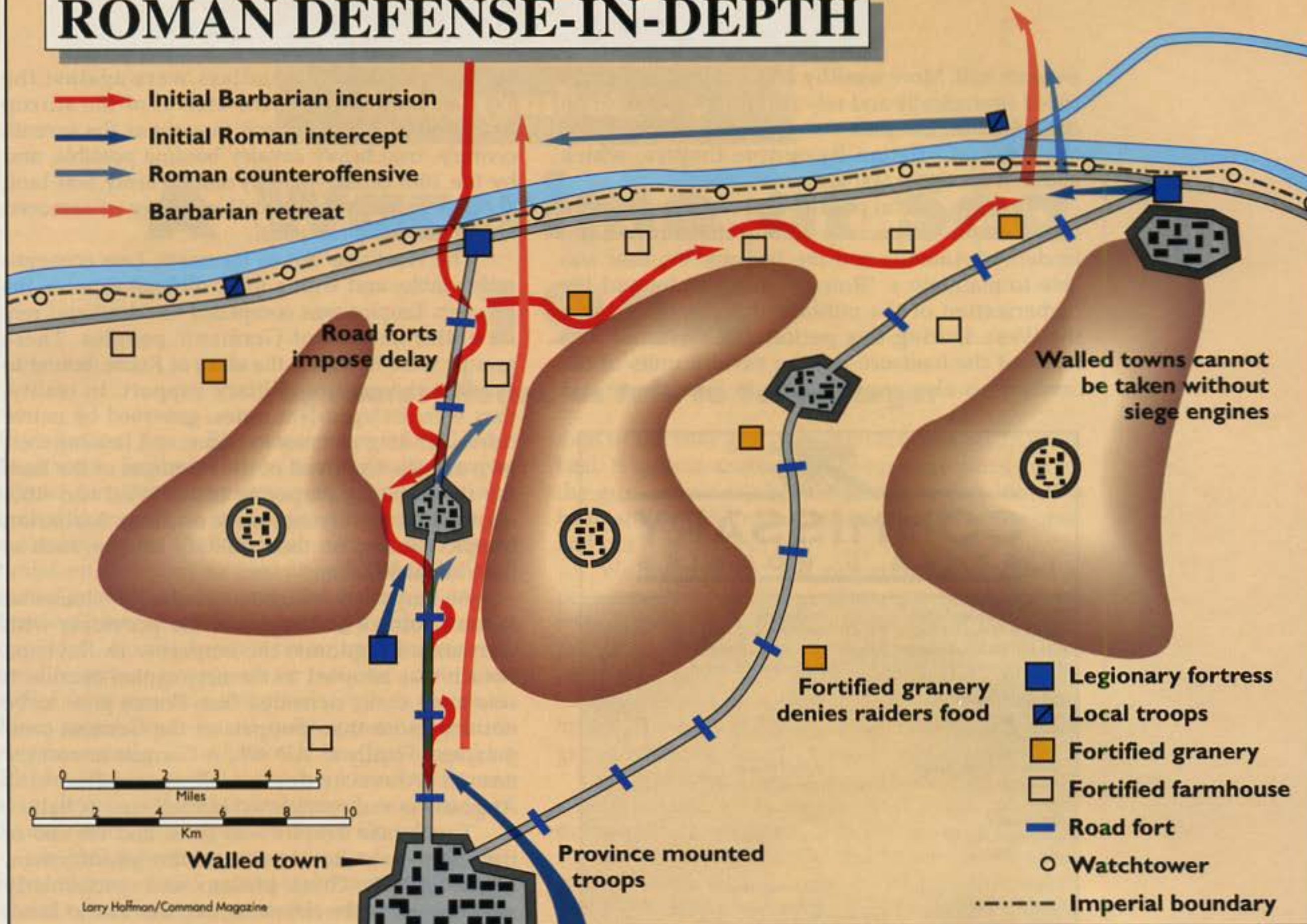
coastal cities, compelling the Senate to raise a fleet and methodically sweep the Mediterranean.

The civil wars that ended the Republic demonstrated the value of a reliable navy, and to both secure his rule and keep piracy suppressed, Augustus stationed permanent naval squadrons at Misenum, Ravenna and Alexandria. In the course of the first century AD, the *Classis Britannica* was established at Boulogne to secure the Channel and communications with Britain, and flotillas were built on the Rhine and Danube to patrol the frontier and shuttle troops to danger spots. The *Classis Moesia* on the lower Danube was also responsible for the Black Sea coast to the Crimea, while the *Classis Pontica* guarded the southern and eastern shores.

Initially the naval commanders were army men, but by the end of the first century AD, the prefects who commanded the major fleets were essentially civilian officials holding administrative posts. The active commands, apparently held by career navy men, were the *navarch*, who commanded a squadron of 10 vessels, and the *trierarch*, who captained individual ships. The sailors generally came from the ranks of the poor and were mostly non-Italian, continuing the tradition of the Republic. They served for 26 years, and like the provincial auxiliaries received citizenship on discharge.

Because of its usefulness in transporting troops and checking the piracy that would otherwise have threatened Rome's food supply, the navy survived into the late empire, and the fleets at Misenum and Ravenna still existed in the early fifth century. During that century, the Roman navy in the west disappeared with the empire, but in the east, in the emerging Byzantine Empire, the navy gained new status and a new deadliness with the introduction of "Greek Fire" in the seventh century.

ROMAN DEFENSE-IN-DEPTH



2,000 to 3,000 for the *limitanei*, and they were mostly composed of poorly-trained, lightly armed troops, short of body armor and equipped with spears, missile weapons, and the long sword (*spatha*), useful because of its reach in the now common undisciplined melee.

The strength of the *comitatenses* was its cavalry units, most of them barbarian in origin, and Diocletian created a special bodyguard of German cavalry, the *scholae palatinae*.

With the restoration of some measure of order by Diocletian, the empire steadily moved from the elastic defense of the Anarchy toward a defense-in-depth. Under this strategy a zone of self-sustaining frontier fortifications and garrisons slowed and stopped an invading force, while mobile units stationed among or just to the rear of them gathered to counterattack and defeat the invader. This required dramatic changes in military architecture, as the empire began to build true strongholds and lines of forts that could hold out for a considerable time, denying invaders immediate access to the interior, and especially to food supplies.

The frontier towns also turned into fortresses, and the *limitanei* manning all these defenses rapidly evolved into part-time soldiers, farming the local land until called to arms by a threat, rather

like the old military colonies of the middle Republic. That the *limitanei* were called upon only to defend fortified points compensated for their poor quality; offensive operations were undertaken by the better trained units of the *comitatenses*.

Conscription of "Roman" citizens was partially used to fill the ranks, but manpower shortages required greater and greater reliance on barbarians, especially Germans. Not only were the fighting qualities of those northerners admired, but military service also provided an occupation for the growing number of German settlers allowed into the empire. Constantine I (AD 307-337) greatly expanded the use of Germans and finally abolished the Praetorian Guard, replacing it with the German *scholae palatinae*. As the fourth century wore on, the German pressure grew into a migratory flood, leading to the Roman disaster at Adrianople in AD 378, and Theodosius I (AD 379-395) had little choice but to absorb even more Germans. He granted the Goths the right to establish a virtually independent state within the imperial frontiers.

The Divided Empire (AD 395-476)

Theodosius I was the last man to rule a united Roman state — after his death the empire split permanently down the Adriatic into an eastern and

western half. More wealthy and civilized, better situated strategically and relying far less on barbarian confederates, the East survived and evolved into the Greco-Christian Byzantine Empire, which endured another 1,000 years.

Through careful policies and recruitment within the empire, especially among the sturdy highlanders of Anatolia and the Balkans, the East was able to maintain a "Roman" army and avoid the barbarization of the military that dragged down the West. During this period extensive use was made of the *limitanei*, but the cavalry units of the *comitatenses* also grew steadily in importance and

skill, trained in the endless wars against the Persian Empire. With the arrival of the stirrup from central Asia, perhaps as early as the seventh century, true heavy cavalry became possible, and by the 10th century the Byzantine army was built around an impressive striking force of armored horsemen, the *kataphraktoi*.

The West was not so fortunate. Less economically viable, and with a long, difficult frontier, the Western Empire was compelled to admit and rely on entire nations of Germanic peoples. These groups were in theory the allies of Rome, bound to provide the empire military support. In reality, they were independent states, governed by native rulers, sending no taxes to Rome, and fielding their own armies. Deprived of the resources of the East, the fifth century emperors in the West had little choice but to rely not only on their barbarian troops, but also on their military leaders, such as the Vandal Stilicho.

As barbarian settlement gradually eliminated Roman culture and replaced the provinces with Germanic kingdoms, the emperors in Ravenna (which was adopted as the new capital because it was more easily defended than Rome) grew to be nothing more than puppets of the German commanders. Finally in AD 476, a German mercenary named Odovacar deposed Emperor Romulus Augustulus and proclaimed himself king of Italy.

The Roman Empire was gone, and the end of the 1,000-year dominance of the infantryman, begun with the Greek phalanx and spectacularly represented by the classic legion, was also at hand. With the appearance of the stirrup, the supreme heavy cavalryman — the mounted knight — became the centerpiece of European warfare, easily dominating a world that couldn't support trained and disciplined infantry. But in a sense the classic Roman legion returned a 1,000 years later, in the guise of the late medieval pike armies that brought the curtain down on the knights. ❖

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I Remember . . .

A Warcrime at Sea

1944

by James Blears, as told to John Berger

Introduction: James Blears was born in 1923 near Manchester, England, the son of a professional rugby player. A championship swimmer in school, he was invited to try out for the English swimming team in anticipation of the 1940 Olympics. Of course, as events turned out there were no 1940 Olympics, and that year instead found him volunteering for training as a ship-board radio operator. While in training for his operator's certificate, he also began a career as a professional wrestler; earning five pounds per match at a time when skilled labor was paid about three pounds per week. Blears passed the six-month radio-operator's course in only four months. Though he could have waited until his 18th birthday, he decided to put to sea immediately, and soon shipped out on his first convoy to Canada as Second Radio Officer aboard the Baron Douglas.

In 1943, lured by promises of better food and working conditions, and 25 percent higher wages, he shipped aboard a Free Norwegian troopship, and later signed on the Free Dutch freighter Tjisalak. On 26 March 1944, en route from Melbourne to Colombo with a cargo of flour and 27 passengers, Tjisalak was torpedoed by the Japanese J3-type submarine I-8, commanded by LCDR Ariizumi Tatsunosuke. It was about 0545 hours, local time. Blears had just gotten off watch at 0400 and was in his bunk when the ship was hit.

The torpedo hit right below my cabin on the port side. The ship rolled to starboard and I was thrown out on the floor. The door to get out was suddenly the ceiling, and we stayed that way for a while. After I got out of my cabin, I ran to the radio cabin to see if the first radioman was injured. I found him sending a message, but we had fragile "goal post" antennas, and when the ship was hit they'd broken, so though he was sending, it wasn't getting out.

My job, if we were attacked while I was off duty, was to go to the after gun. There was a small lifeboat there, and a big metal case with a rifle and some ammunition and a big waterproof radio transmitter, about as big as a giant suitcase and weighing 60 or 70 lbs.

The ship had begun to right itself, but as I was going to the after gun I had to swim across the well deck to get there. From the time I got my stuff, got out of my cabin and went to the radio shack and

then to the after gun, the ship was back on an even keel. It sank in another 5-6 or minutes. But I got to the gun, threw my little waterproof bag into the boat, and got the radio transmitter out of the case and put it in the boat too.

We were firing; the gun crew had spotted a periscope and was firing. Every gun position had been taken except for loading the shells, so I starting passing those, but the ship had begun to list again, and soon we couldn't elevate the gun high enough to shoot at anything. There was a kid on the bridge, though, who kept firing a 20mm machine-gun at where he thought he could see a periscope.

As the ship went down, another guy and I swung the boat away and got in it. While we were doing this, there was another guy — an English regular sailor, a gunner, a red-headed guy I used to play cards with — who dived into the water, and as he did he hit his head and knocked himself out. So I jumped off the boat and got him. It wasn't a big rescue or anything; I only had to swim a total of about 20 feet. And then the ship was gone.

There were four lifeboats drifting. Capt. Hen had an engine on his boat, along with the chief engineer, the chief radioman, most of the officers, and the Red Cross nurse. Right away all the boats started leaking because they were wood and hadn't been in water in over a year and the seams were split. So we all started bailing.

All of a sudden a periscope came up and circled us, and then finally the submarine surfaced a couple hundred yards away. It was a big bugger with a small airplane hanger on deck. We could see the crew rushing to man their guns — they had some kind of twin-gun mount — and then one of them started yelling, "Captain?! Captain?!" Finally Capt. Hen identified himself and they waved him to come over toward the submarine. We watched everybody on the Captain's boat climb aboard the submarine and disappear below decks. Then the Japanese shouted for everybody else to come, and we started rowing over.

As we climbed up, I noticed all the Japanese were short, some of them so short their scabbarded swords were dragging on deck as they walked. It hit me they looked exactly the way they were depicted in *The Saturday Evening Post* — it was the

first time I'd ever seen any Japanese. They grabbed us and ripped off all our rings and watches, and batted us with the flats of their swords. Some of them carried submachineguns on slings around their necks, or had pistols on lanyards.

Soon, except for the officers and woman they'd taken below, they had us all — about 80 people — sitting on the foredeck ahead of the guns. I was taken forward, and the guy escorting me whacked me real hard on the back of the head, and I just did what everybody else was doing and squatted with my head down. There was a cameraman taking movies of the whole thing. The sub got underway and was doing six or seven knots, and away we went, leaving the wreckage and our boats behind, and they started having their fun.

We had a lot of Hindus among the passengers, and our crew was Indonesian with Dutch officers, plus three British officers and 10 British gunners. All I could see at the time was a big mass of squatting men around me. I was mentally numb and didn't know what to do, but I was looking at the water and started trying to get myself to think. Then they grabbed one of the Indonesian guys and pushed him down all the way, and they were laughing and yelling, and two Japanese crewmen held his arms up and a guy with a sword swung it and it went "zhunk!" I was watching, and they cut off the top half of this Indonesian's head, and it fell down and then they let him fall. He started flopping around and they kicked him overboard.

Then they started really having their fun. They'd just go up to a guy and hit him on the back with a sword and then take him all the way up

front. One swing with those swords and off lopped the head.

So I was thinking I had to get off that submarine. By this point we were miles away from the wreckage, but I figured my only hope was to get back there and find an empty lifeboat. But I couldn't work up the nerve to jump overboard because the Japanese with the submachineguns were all around us, keeping us covered. But every minute you'd hear their laughing from up front, and then "zhunk!" Then individual pistol shots started, "bang! bang!" Then came the "rat-a-tat-a-tat" of a machinegun from behind us on the conning tower.

As I was trying to make up my mind what to do, the guy two people in front of me — a Hindu — jumped up, let out a scream, and dived overboard. They were on him with the machineguns as soon as he hit the water, and I saw him go straight down. That changed my mind about that idea.

Then a Japanese officer hit me on my back with the flat of his sword and said something, I don't know what, and I stood up. As I turned I saw our British gunners all tied together, along with a couple of our Dutch officers, standing over by the conning tower. The Japanese behind me gave another shove and they tied my hands behind my back and then tied me to Peter Bronger, our fifth officer. He was my best friend on board and they'd tied me right to him.

The rope was really thick, and as they tied me I tried to keep my wrists as wide as I could. They tied the one wrist in a way I knew I couldn't get out of, but I could also feel that I could get the other free.

Then the guy started shoving all of us with his sword, wanting us to move around the conning tower. On the other side of the conning tower there were two more Japanese officers, one holding a sword, the other with a sledgehammer. I was in the lead, and I knew the way those guys were looking at us this was it. So when they started coming at us, I kicked with my foot and pulled my loosely tied hand out of the rope and dived, dragging Peter with me. I didn't know it at the time, but a lot more people than I'd been able to see had already been killed, and I turned out to be the fourth of only five who got away.

I hit the water and swam to get as deep as possible. The sub kept going by, and I could even see her twin screws passing in the clear water. I stayed under as long as I could, and then came up with my head just breaking the surface, and right away I could hear bullets splashing all around. I went back under and noticed that bullets don't keep going straight once they hit the water; they go off in all directions.

When I came up for another breath, the sub was quite a ways off and all I could see was her stern. There were two officers sitting there in old fashioned deck chairs, and they were firing rifles at



James Blears as a radio officer in 1945.

whoever they spotted. So I kept diving under until I saw and heard no more firing.

Peter was kind of half under water, floating with his head down. They'd either hit him with a sword or machinegunned him as we were going over, because his back was torn wide open right down to the spine and he was all covered with blood. I was in some kind of shock myself and I stayed with him for a while, but he looked dead, so I finally untied my other hand — that took another five or 10 minutes — and I said, "Peter, if I can find anything to come back for you I will." But as far as I know he was already dead.

I guessed I was aboard the sub for about 45 minutes to an hour. I didn't know how far away from our wreckage I was — if I'd known how far it was I probably would've given up — but I knew getting back there was my only shot. It turned out to be about four or five miles. There were big swells and the water was warm, so I just started swimming in the direction opposite to where I thought the sub had been going.

I swam all day. From about 8:30 in the morning, I swam until the sun was going down. I was in great shape, so I just kept going, figuring I wouldn't give up, but when it started to get dark and I still hadn't found anything, I got scared that I was going to die.

But then I let the big swells lift me up and I started looking around, and the second time I did that I happened to look behind me and I saw little black dots floating far off, and I knew I'd found something. I'd gone past the wreckage, just missing it.

I swam toward the dots, and the first thing I found was a big, heavy, round table that we used to play cards on when we were off duty. I grabbed that — it was the first solid thing I'd touched in six or seven hours. I hung on and then I felt strength coming back into me as my hope returned. Then I saw garbage floating, and sharks thrashing away at that. Our ship's food — the stuff that we ate, not the cargo — had all blown out and there were things all over the place.

LCDR Ariizumi Tatsunosuke and the I-8 Submarine

Ariizumi sank three more ships, and claimed a sailing vessel sunk by gunfire, while commanding the submarine *I-8* in 1944. On 2 July 1944, he sank the *Jean Nicolet*. Ninety-six survivors were taken aboard the *I-8* and forced to run a gauntlet. When the submarine submerged again, only 23 had survived from the *Nicolet*. They were finally rescued by an Indian warship on 4 July.

Following his tour of duty on the *I-8*, Ariizumi was promoted to captain and given command of the 1st Submarine Division/631st Air Corps, comprising the STo class submarine/aircraft carriers *I-400* and *I-401*, and the AM class boats *I-13* and *I-14*. The unit prepared for a "special attack" mission against the Panama Canal, in which the ships' 10 M6A1 float planes were to strike the locks and the dam that provided the reservoir necessary to operate that manmade waterway. However, on 25 June 1945, the division was ordered to expend its aircraft in a conventional *Kamikaze* attack against the US Navy aircraft carriers at Ulithi anchorage. That attack — planned for predawn on 17 August — was preempted

by the Emperor's announcement of Japanese surrender on 15 August.

Ariizumi committed suicide on 31 August, as an "act of apology" to the Emperor for the failure of his division. His suicide also aborted his certain trial and execution for the crimes he perpetrated against the crews of the *Tjisalak* and the *Jean Nicolet*.

Two lower-ranked officers, Monontaka Sadao and Hattori Masanori, who had been aboard *I-8* when *Tjisalak* was sunk, were convicted of war crimes in 1948. They served five years and were released around the end of the Korean War.

by John Berger

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The *I-402*, a sister ship of the aircraft-carrying submarines Ariizumi was to have led against the Panama Canal or Ulithi.

Then I saw a life raft — we had four on the ship — actually made of two big oil drums surrounded with wood and shaped into a big square. There was a hole in the center, and Red Cross emergency stuff was stowed in there. Then from the raft I saw an arm waving and heard a voice calling, and I let go of my table and swam over there. I'm sure I broke a world record doing that — I didn't even think to worry about the sharks. I got over to the raft and it turned out to be Chief Officer Frits de Jong.

He was 6'6" and about 300 lbs. What had saved him was the Japanese who'd tried to kill him was so short that when he put the gun up to blow de Jong's brains out the angle had been so steep the bullet only whacked the back of his head. He'd rolled into the water, and that brought him back to consciousness. They'd started with the biggest guys first, so they'd shot him early on and he'd only had to swim maybe a mile. He had a hole in the back of his head, so I opened the first aid kit



James Blears today.

and got the sulfa powder and put it on around the wound and bandaged it and wrapped his head all around.

There was a canvas cover, so we lay down on it in the center of the raft. But I was scared to death over the idea the Japanese might be circling back to get us, so I kept looking for periscopes. Then I heard another voice, and it was Third Engineer Spuybroek. We traded stories, and it turned out he'd escaped similar to me, and he was fine, so that made three of us.

Then I said to Spuybroek, "Let's get to the boats." Everything was still drifting, and it was really getting dark, but there were little lights all around because all the life-saving equipment on the ship — lifebelts and lifejackets — that they'd ripped off us and thrown overboard, had chemical lights, and they were all around. We didn't have any oars, so it took the two of us maybe half an hour to finally get to my boat. I looked inside and saw the transmitter was still there. So was my little waterproof bag with my I.D. book that showed the ships I'd served on — and I still have that.

We got de Jong moved into the boat — which by then was nearly full of water, but didn't sink because it had air tanks under the seats. One of us bailed while the other got the oars out. Once we got her bailed we each took an oar. By this point we'd been going steadily since about six o'clock that morning. We rowed over to another boat and got all the food and water from it. Even though everything was floating around inside, it was all in water-tight containers. We figured we had enough for about 40 days.

It was completely dark when we heard another voice. We rowed toward it, and it turned out to be Second Officer Jan Dekker, and the same thing had happened to him as to me and Spuybroek. There was another guy with him, a Hindu named Dhange, and they were floating on a hatch cover. Dhange was able-bodied; he'd swam farther than I, and he was the last survivor.

Dhange and the rest of us eventually gave evidence about this atrocity personally to Lord Louis Mountbatten and his staff after we made it back to Colombo. Dhange was from Bombay, had survived the sinking of his own ship earlier, and was going home on a free ride when we were sunk. He testified that after the Japanese had gotten rid of the officers, they took the last 20 or 25 guys and tied them all together using one long rope, made that rope fast to the deck of the submarine, and dived. Dhange was the last guy on the rope at the tail end, and as they were being towed down under the water he managed to get loose and he swam for it.

Anyway, after we'd gotten the mast up and started sailing, Dekker got out a little compass and figured the prevailing winds were taking us toward Java [Japanese held]. We didn't want to go there, so we started trying to tack, but it was very difficult in that little boat.

We had to bail all night, so we took turns. Finally, as it started to come light, I just collapsed. I was out of it, and just lay there for five or six hours. Then I came to, and we opened up some pemmican and ate that along with a dipper of water, and boy that revived me fine.

We kept trying to tack north, away from Java, but by the third day the Chief Officer started getting delirious. Dekker said to me, "Sparks, I think we have to risk transmitting a message tonight." So I got out the radio and climbed the mast and put the antenna up. I hooked up and keyed it once and everything worked O.K.

It was around 4:00 p.m., and we we're waiting 'til dark to send, and we decided to have a can of peaches. Every March 29th since then I've always eaten a can of peaches. Anyway, we opened a can and each had a big peach and drank the juice, and it tasted so good. I'd memorized the coded message I'd send — "SSS," for "attacked by submarine" — when all of a sudden — Boom! — there was a big explosion right in front of us. Then, Bang! Another shell landed a bit farther away, then one closer, and that's when I figured we'd finally had it.

We couldn't spot anything, but I thought it was the submarine and they'd come back to find us and kill us. We tried to decide if we should jump back in the water, when we finally spotted a merchant ship. I said it was probably a Japanese supply ship for replenishing their submarines. They kept firing as they got nearer, but then they turned and I could see it was a Liberty Ship — you could tell by the silhouette — and they stopped firing and came thundering up right along side and threw a cargo net over.

I yelled up, "We got a wounded man weighs 300 lbs!" So they put a crane out and hauled him up. As we were climbing the net they were already under way again. Turns out they'd spotted us just as it was getting dark, and their lookout thought our sail was the conning tower of a submarine, so they'd started firing at us. Luckily, they were bad shots.

Two guys pulled me aboard and gave me a glass of hot water mixed with whiskey. They were all standing around with machineguns, and when they heard the Dutchmen talking among themselves, they thought maybe they were Germans and started getting nervous with those guns. I noticed this and spoke up: "Wait! I'm English, and we're on your side!"

The ship was the *SS James A. Wilder*, named for a member of the Wilder family in Hawaii, built in 15 days flat and on her maiden voyage to Calcutta. They were taking *14th Army Air Force* pilots to fly against the Japanese in Burma. One of those pilots gave me a toothbrush and some clothes, and three days later we landed in Colombo. After we gave our evidence, they sent a flying boat out and found the wreckage, but no more survivors.

One night some time after the war had ended, I woke up screaming. Rain was spattering on the skylight above me, and I guess it reminded me somehow. But since then I've never had any kind of flashbacks or any worries about it. ☺

Epilogue: After his discharge as a merchant seaman in 1945, Blears wrestled professionally full-time in Europe and England. Eventually he moved to New York and extended his successful wrestling career in the States as "Lord Tally Ho Blears." A resident of Hawaii for 30 years, he is still an avid surfer and rough-water swimmer who lives with his wife and his dog on what he calls "the poor side" of Makaha Beach. He has remained in touch with Frits de Jong and the USAAF pilot from the James A. Wilder.

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THE SIEGE OF TYRE

BY CARL O. SCHUSTER

In July 332 BC, Alexander the Great and 2,000 of his best troops stormed ashore against the port city of Tyre. Two hours later they broke through the beach defenses and entered the main part of town. By mid-day one of the ancient world's wealthiest and most powerful city-states was in flames and its inhabitants facing enslavement. What had begun seven months before as a classic struggle between a maritime island power and an omnipotent land power had finally ended in history's first combined land, amphibious and naval assault.

The origins of Alexander's conflict with Tyre seem innocent by today's standards. Fresh from his victories at Halicarnassus and Issus, Alexander had been accepted as overlord by all the Phoenician city-states except Tyre. At first it appeared he

would be similarly accepted there; envoys met him in front of the ancient settlement and graciously placed themselves at his disposal. But then Alexander asked to enter the island city itself, with an escort, to offer sacrifice at the Tyrean shrine to Menzikert, whom the Greeks called Herakles (Hercules), and from whom Alexander claimed descent. Citing a variety of reasons, including their king's absence from the city on that day, the envoys said Alexander could not come in. Alexander took the refusal as an act of defiance, and the siege was on.

Though they had hoped to avoid just such a conflict, the Tyreans probably felt immune to the power of Alexander's army. Lying nearly a mile offshore, Tyre was one of the strongest maritime powers of the age, with colonies stretching across the Mediterranean to Sicily, Spain and North Africa (including Carthage, which would go on to become a great power in its own right).

The Mole

Alexander had no fleet with which to challenge Tyre, and he therefore had little prospect of being able to transport his army out to the island city. Even if he could do so, the city's walls, measuring several feet thick and possibly over 100 feet high, posed another significant barrier to any attacker. No ancient military commander before Alexander had successfully assaulted a defended beach, and the Tyreans no doubt believed none ever would on their island.

Undaunted, Alexander initially attempted the simplest and most direct solution. He ordered a causeway (or "mole") be built out to the city from the mainland. Once that was completed, he would take Tyre by storm. Using rubble and other materials from the on-shore remnants of an earlier city of Tyre, the Macedonian troops at first made quick progress. The water close to shore was shallow, and the Tyreans made little effort to interfere with the construction. But if Alexander interpreted that initial inactivity on the part of the defenders as a lack of will, he was soon disappointed.

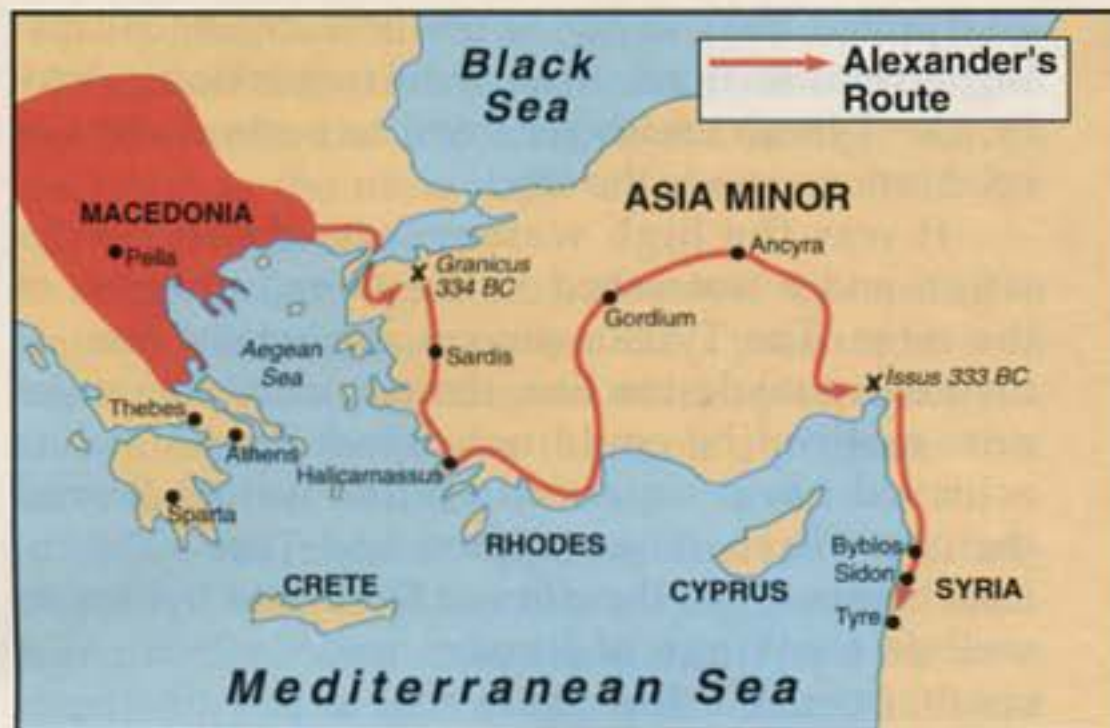
The city's leaders had immediately dispatched vessels to ask assistance from Carthage and to recall their own navy, then serving with the main Persian fleet near Chiosk. Lumber was brought in

THE ARMIES

Tyre		
Light Infantry		8,000-12,000
Alexander		
Macedonian Phalanx		9,000
Hypaspists		3,000
Greek Hoplites		7,000
Light Infantry		5,000
Heavy Cavalry		2,300
Macedonian* Light Cavalry		6,000
Greek Cavalry		3,000
Total		35,000

Notes: Little if anything is known about Tyre's troops except that the city was well equipped with catapults, ballistae and other missile weapons. Most authors estimate Tyre's defenders were light infantry who were most accustomed to fighting from ships. The city had withstood three major sieges in its time, including one lasting 13 years, and had never had its walls breached.

*The Macedonian cavalry employed shock tactics and attacked at a gallop. This was unusual in antiquity, since the lack of a stirrup (introduced by the Huns in the 5th century AD) prevented riders from having a firm purchase on their mounts. The cavalry did not participate in the assault on the city.



to build additional towers along the walls and to construct catapults to attack the besiegers. Tyrean agents landed farther north along the Lebanese coast to bribe nomadic tribes to harass Alexander's foraging parties and inland garrisons. Beyond that, they watched the mole's progress and waited for their fleet to return.

The fleet arrived just as the mole reached deep water and its builders suddenly found themselves having to fight a fast northerly current that began washing away the lighter materials. Alexander had to send his foragers farther afield to acquire the lumber needed to reinforce the sides of the mole. That reduction of his available work force was made worse by the need to assign additional units to act as escorts against the nomads.

The Tyrean fleet had meanwhile returned and become active, carrying archers and slingers to attack the workers on the mole from offshore. Occasionally the ships even got close enough for swimmers diving from them to attach lines to the mole's pilings. The ships pulled the pilings loose and the current did the rest. Progress on the mole slowed.

Alexander's solution to the naval raids was twofold. First, he constructed a palisade along the sides of the mole to protect his working parties from the Tyrean ships' missile fire. Second, and probably more importantly, he had two tall "battletowers" built, which could be moved up and down the mole to engage the enemy ships. Manned by archers and equipped with small catapults, the battletowers began to inflict heavy losses on the raiding ships. After a few weeks of steady fighting around the mole, the Tyrean navy withdrew and progress picked up again.

The Raid

In Tyre the construction of the additional towers was continued, but the oncoming movement of the mole led the defenders to launch one of the most interesting naval commando operations of ancient times. Preparations for it were carried out in great secrecy; ships were moved about in the city harbors with all sails out to screen the activity underway inside.

Tyre: The Strategic Situation

Tyre posed a significant strategic problem for Alexander. He could not afford to let it remain neutral or exist as an enemy. Protected from his army by its offshore location, Tyre was a potential rallying point that might stimulate the recently fallen Phoenician cities to overthrow their Macedonian garrisons and rejoin the Persian cause. That would have resulted in an entirely reconstituted Persian fleet that would have posed a serious threat to Alexander and may well have offered Darius his best opportunity to defeat him.

Likewise, Macedonian domination of Greece was far from universally accepted there, and Sparta in particular was waiting for an opportunity to stir up trouble. The Persian fleet might have transported gold to buy treachery there, or transferred troops from Sparta's allies on Crete to the mainland. Persia's naval power also offered Darius a means to recapture the Mediterranean coast in Alexander's absence if he pushed on into the Persian hinterlands.

Though many modern scholars doubt the ability of any ancient fleet to conduct such operations effectively, Alexander certainly took the threat seriously. In fact, he justified the siege to his generals on that very basis.

The Tyreans converted a horse-transport ship into a fire ship, filling its spacious cargo hold with wood chips, pitch, sulfur and other combustible materials. Oil pots were slung from the yardarms, and the stern was weighted so the bow could be pushed up on the mole more easily. A special



THE OPPOSING FLEETS

Ship Contingents	Tyre	Alexander
Native	100+	1
Phoenician (Sidon, Byblos, etc.)	0	80
Carthage	1	0
Rhodes	0	10
Soli and Mallus	0	3
Lycia	0	10
Combined Fleets of Cyprus	0	120
Total Fleet	101+	224

Note: The Tyrean fleet numbered over 100 ships, of which the bulk were triremes, but several quinquiremes — the largest warships of the period — were also included.

crew of strong swimmers was selected and put aboard.

The raid was launched shortly after dawn, with the crew using muffled oars to reduce noise as much as possible. The ship arrived at the mole just as the Macedonians were coming out of their tents for breakfast. The fire ship was run up on the mole and into the battletowers. The fires were then lit and her crew swam out to a recovery ship while several other Tyrean galleys attacked the Macedonians rushing out to fight the conflagration.

Caught without their armor, the Macedonians suffered many casualties as the fires spread up the battletowers. Within minutes the structures burned to the ground. Meanwhile still other Tyrean ships had attached ropes to several of the mole's pilings

Tyre: The Assault Troops

Alexander chose his best troops for the amphibious assault (again, setting a precedent continued to our day). His Hypaspists carried the same 14–16 foot pike ("Sarissa"), 30-inch sword, and four foot-diameter shield as the regular Macedonian phalanx-infantry, but they were drawn from among his army's best fighters. Their training was also much more rigorous and demanding.

Combining the speed of light infantry with the shock power of the phalanx, the Hypaspists were organized into three regiments (Chiliarches) of 1,000 men each, of which the most elite were the "Foot Companions," or *Agema*. These troops constituted what we might term Alexander's "multi-mission-capable special forces." He would use them at critical moments to extend the flanks of a hard-pressed phalanx, link the main line to cavalry flankers, or serve as skirmishers.

After Tyre, Alexander increasingly used them as shock troops at the most critical point of every battle. He thus stormed ashore at Tyre at the head of the elite of an outstanding army. Even though they suffered heavily at Arbela in 331 BC, and again at Porus in 326, they never failed him in battle.

and pulled them away as the fires raged, collapsing several sections. After their tremendous victory, the Tyrean crews returned to several days of celebrations inside the city.

It was the high water mark of the Tyrean effort, and a watershed in the overall progress of the siege. The Tyrean success carried the seed of their eventual destruction, though, since Alexander now realized he could not defeat them until he achieved naval superiority in the waters around the city. He therefore approached Tyre's Phoenician competitors, the cities of Sidon and Byblos, as well as the kings of Rhodes and Cyprus. As a result, over 200 ships were sent to join his cause, instantly making Alexander one of the world's most powerful admirals. With Carthage unable to assist her mother-city because of an ongoing war with the Greek city-states in Sicily, Alexander now had the maritime advantage he needed.

The Siege - Phase II

Alexander hoped to induce the Tyreans to come out and engage in open battle, but they refused. He considered storming the city's harbors, but the Tyreans had arranged their ships in a solid concave formation around their entrances, packing the walls there with archers. Alexander recognized that disposition as a potential deathtrap for his new fleet, and therefore contented himself with blockading the city.

He next ordered the mole widened to allow for the deployment of more troops. He also led a detachment into the hills and eliminated the nomad threats to his foraging parties. Lumber and other needed supplies began arriving in a timely fashion. Tyre was isolated and alone.

Reinforced by the arrival of 4,000 Greek mercenaries, Alexander began to believe he could bring the siege to an end. He doubled the number of men working on the mole, and positioned catapults at its extending head to begin attacking the city walls. Work on the mole continued as both sides' catapults exchanged fire throughout the day.

Alexander also converted several of his triremes to siege-support craft by mounting catapults on their decks. He had them anchored at various spots around the city, and they begin a bombardment of the walls, always probing for weak spots.

These new operations turned into a daily battle, with the Tyreans planting rock barriers offshore at night in the hope of damaging the catapult ships when they came in to bombard during the day. Alexander's men reacted by using swimmers, under the protection of shipborne archers, to attach lines to the rocks so they could be dragged clear.

Tyrean swimmers and a heavily-armed trireme began sortieing to attack the catapult ships, often cutting their mooring lines. Alexander countered by switching to metal anchor chains, and then armored one of his own triremes and sent it to drive the Tyrean vessel back into harbor.

By late May, it was apparent Tyre was in trouble. Cut off from outside support by the Macedonian blockade, the city's food and lumber stocks declined as the mole drew ever nearer. Still, the city was not yet defeated.

Seeing that Alexander's fleet was too strong to engage when it was united, the Tyrean admirals waited for an opportunity to attack its separate elements. Ironically, it was the mole's progress that gave them their chance.

Alexander had divided his fleet into two divisions, with the Cypriots blockading the north harbor and the Phoenicians the south. The mole now reached so close to the city walls that it blocked the two divisions from being able to move directly to each other's support. The crews of both divisions had fallen into a pattern of tying up to the mole at midday to enjoy a leisurely lunch. Even Alexander had begun taking naps during the worst of the noontime heat. The Tyreans hoped to make use of their enemies' daily schedule to eliminate Alexander's numerical advantage in ships by concentrating against and destroying the Cypriot vessels before the Phoenicians could get into action.

As with the earlier battletower raid, preparations were conducted in secrecy, with sail and canvas screens used to hide the activities within the harbors. Once again, muffled oars helped conceal the Tyreans' departure from the northern harbor. No timing drums were struck, lest those sounds give warning. The Tyreans also posted lookouts along their city walls to provide a warning when and if the Phoenicians got underway.

Meanwhile the Cypriot crews were enjoying their lunch ashore, and only a few crewmen were actually on the ships when the Tyrean fleet crashed into them. Within minutes the raiders had rammed and sunk the quinquiremes of the Cypriot Kings Phytogoras, Androcles and Pasocrates. They then pressed on and drove aground most of the remaining ships. Almost a third of the combined Cypriot fleet was destroyed in the early fighting, and it looked like the Tyreans were going to win a major victory.

Unfortunately for them, the Tyreans had not reckoned on Alexander's initiative and reaction. Hearing the initial clash, he rushed out of his tent and took personal command of the Phoenician ship division. Ordering the first ships manned to blockade the south harbor, he took a handful of quinquiremes and five triremes in a mad rush around the island. The Tyrean sailors were so intent on destroying the Cypriots, they failed to hear the warnings shouted to them from the city walls.

Alexander's arrival came as a complete surprise and the tide of battle turned. Only a handful of Tyrean ships escaped back into the north harbor, but casualties among their crews turned out to be light, since most of the men from the lost vessels

managed to swim to the city. It was the defenders' last gasp.

Finale

By late June, Alexander's men had succeeded in making a small breach in the wall along the island's southernmost beach; however, the main wall facing the mole remained intact. The Tyreans reacted with desperate attempts to keep the Macedonian fleet away from the breach. They put rocks and staked logs into the shallow waters offshore. Once again, Alexander's fleet had to engage in daily obstacle removal as it also struggled to widen the breach and tear down any repairs attempted the night before.

Other ships were sent around to pound the city's western walls, and Alexander had two cargo ships modified into landing craft. Their bows were cut off and moveable landing ramps added. As July began, he selected a regiment from his personal "Companion" guards and another of heavy infantry ("Hypaspists") to conduct a landing. All was now ready.

The first assault against the southern beach was repulsed when Tyrean reserves rushed to join the defenders stationed there. Alexander saw it as only a temporary setback, and ordered the area be subjected to three more days of intense shore bombardment to further widen the breach. He also ordered final preparations for a general assault on the city.

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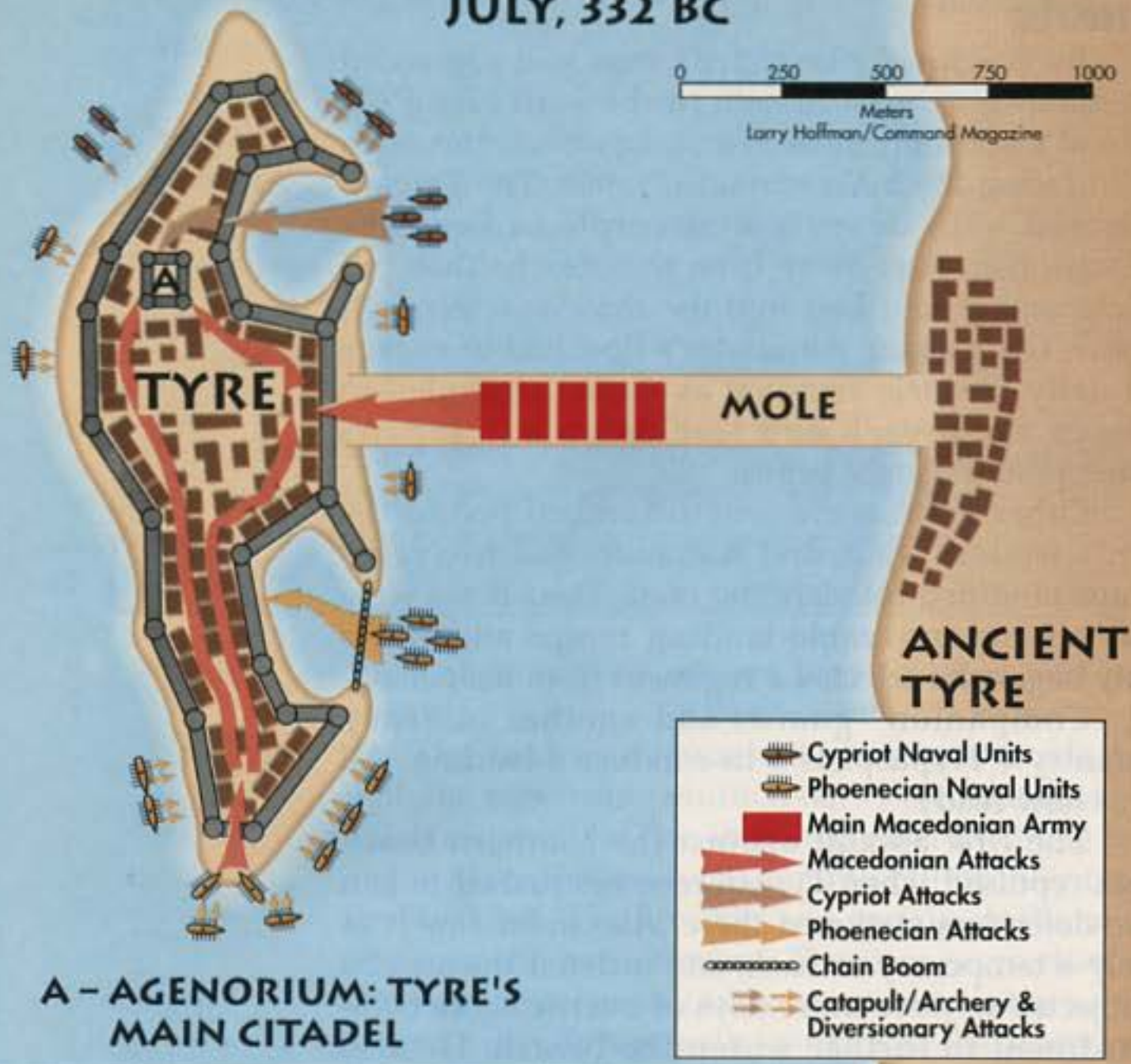
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Finally, his main fleet surged into the city harbors while other ships threw up ladders against the walls along the eastern side. Several other ships even attached rope ladders to the walls along the west and northwest and conducted feints there. Then Alexander personally led his amphibious units ashore against the southern breach. The fighting was furious.

Unlike the earlier assault, no Tyrean reserves came to save the defenders at the last minute — they were already engaged elsewhere around the perimeter. Alexander was among the first to cross the walls, and within an hour the Macedonians had control of the southern battlements and were driving northward into the city proper. The harbor areas fell next, threatening the main wall's defenders with envelopment.

Their walls breached, the Tyreans pulled back from them and retreated into their citadel, the Angenorium, in the city's northern section. Alexander and his troops pursued close behind. By noon they broke across the citadel's walls and began the slaughter of its defenders.

Over 8,000 Tyreans died in the final fighting, which reportedly cost the Macedonians only some 400 men. Alexander spared a few Carthaginian pilgrims sheltering in the temple of Herakles. All the other inhabitants, including foreigners, were sold into slavery. Tyre was then razed to the ground.

Conclusions

Alexander's final assault on Tyre marks the first time four coordinated assaults were launched on separate axes against a single objective. More germanely, this was the first true amphibious assault operation in history. In carrying it out, Alexander had to conduct many of the same preparatory operations used in modern amphibious warfare: advanced-force operations, deploying combat swimmers for beach reconnaissance, obstacle removal, and off-shore fire support before and during the attack.

The siege of Tyre also highlighted Alexander's flexibility and genius in problem solving. He was the tactical innovator of the ancient world, and at Tyre he left a permanent impression on the development of military operations. His mole still connects the ruined city to the shore, and its blocking of the area's northerly current has resulted in the silting shut of the former south harbor. ☛

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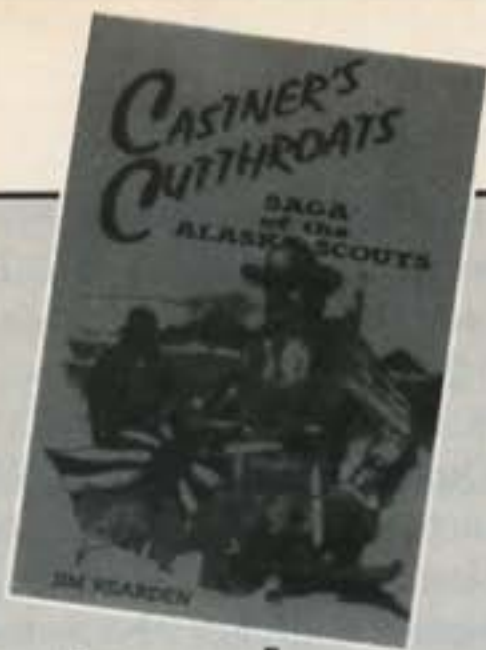
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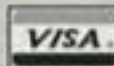
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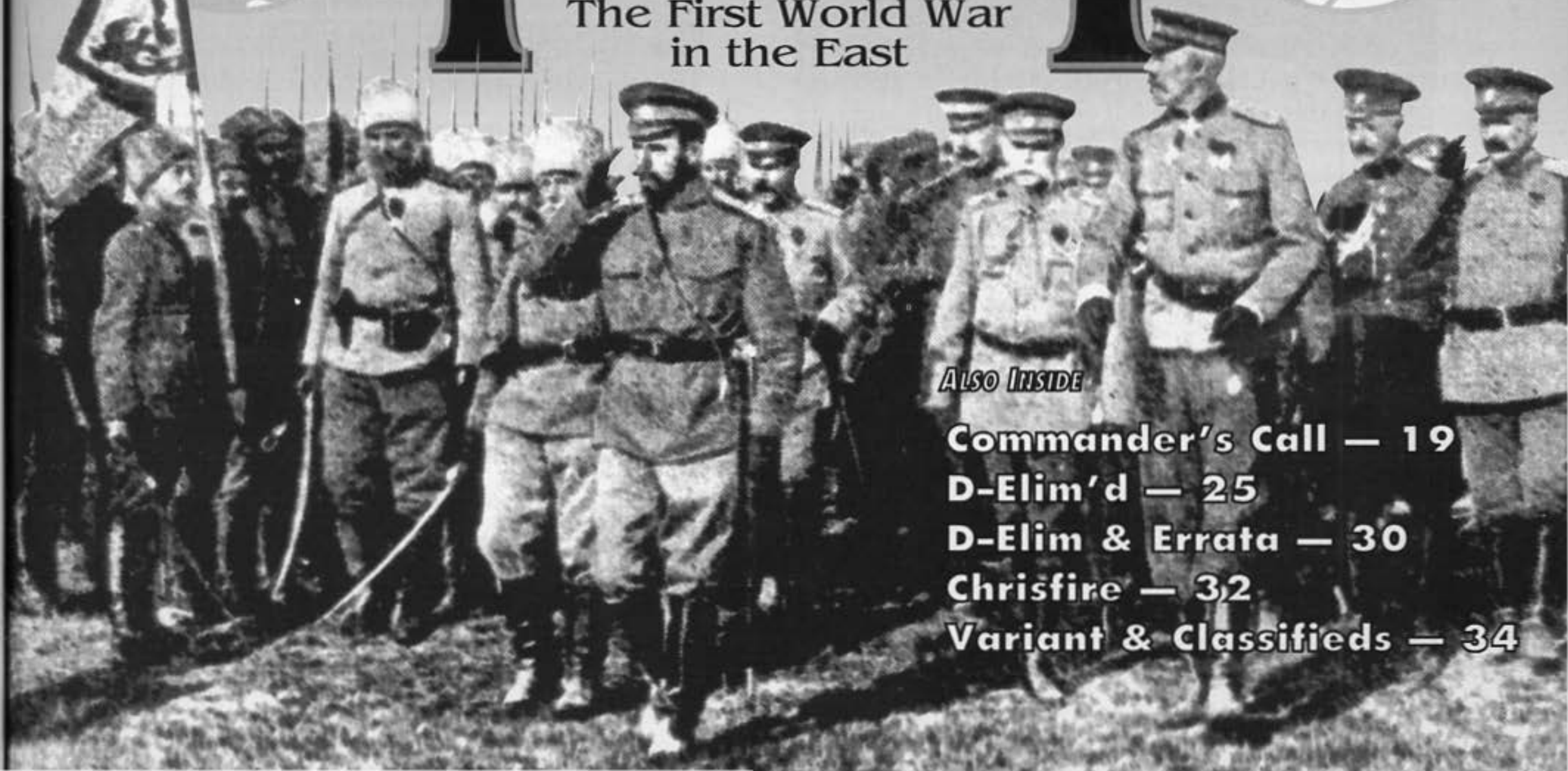
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When Eagles Fight

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Counters: Larry Hoffman

Production: Chris Perello & Beth Queman

Designer's Dedication: To Joanne Speara, and "Good Soldier Schweik," who "always preferred rheumatism to duty."

1.0 Introduction

Old Hands Note. Before you jump through the first couple of rules sections, give 2.12 a careful reading.

1.1 In General

When Eagles Fight is a two-player game simulating the campaigns fought between the the Central Powers and Czarist Russia, from Tannenberg in 1914 to the fall of the Romanovs in 1917. Players step into the shoes of the front commander of their side. The Central Powers player is generally on the offensive, attempting to capture enough Russian cities to bring on revolution in that empire. But the Russian army has remarkable staying power, and is capable of delivering powerful blows of its own.

1.2 Game Scale

Each turn represents one or two months, depending on the season. Each hex equals 25 miles from side to opposite side. Units are mostly corps, with a few divisions, representing between 10,000–60,000 men each.

If this is your first XTR wargame, read this box first!

Don't try to memorize these rules! No one does that. Wargame rules are written to create game systems that simulate the realities of military command as much as possible. As you play the game, you'll find things move along according to a real-world kind of rhythm. After a few turns, that rhythm will become second-nature, and you won't need to refer to the rules as often.

Read the rules through in their entirety at least once before you punch out the playing pieces. During play, look up specific rules when you need to, and use a pen or highlighter to make notes and reminders to yourself at places that give you trouble.

The rules are numbered to help you find the ones you need. The first number indicates the major rules section. The number to the right of the decimal point indicates specific rules within each major section. For example, section 2.0 deals generally with the uses of the various components that make up a complete game, and rule 2.11 within that section explains specifically about "Step Strength."

The bold-type headings are there to help you locate major topics more quickly. The boxed "Notes" distributed throughout the text give examples of play or explain the rationales behind various rules. In your first reading, skip those labeled "Old Hands Notes."

This is a wargame of low-to-intermediate complexity. That means you can learn to play it on your own, even if you and your opponent are completely new to the hobby. Like starting anything new, though, the best way to get into wargaming is have an old hand help you. If an experienced gamer is available to instruct you, use him.

During your first few matches of the game, skip the rules and sections marked with this symbol: Ω. That way you won't get the full competitive or historical experience of playing with all the rules, but you will become accustomed to the rhythm and flow, and that will make playing later with all the rules easier.

Most of all, remember — *the main reason to play these games is to have fun.* If there's some rule or section you're not sure you completely understand, don't let it throw you. Talk it over with your opponent and play it according to your best understanding at the time. Later on, after your gaming experience has increased and new understandings come to you, you can look back on those earlier matches and have entertaining and manly exchanges like this: "Hey! Remember that last game where you beat me?! Well, that wouldn't've happened if we'd been doing those attacks the right way!" And, "Oh, yeah?! Well, sit down here and I'll clean yer clock again!"

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Ω 1.3 Time Limits

After you have become familiar with the game, we recommend limiting the each player to no more than eight minutes total for his New Units & Withdrawals, Strategic Movement, and Movement Phase of each turn. The other phases may take as much time as needed, but allow no more than 15 seconds for a player to decide whether he will fight a particular battle. This rule not only speeds play, but forces players to make hurried decisions of the kind faced by their historical counterparts.

2.0 Game Components

2.1 In General

The components to a complete *WEF* game include these rules, the map, and the die-cut counters. Players must provide two standard (six-sided) dice to resolve combat and random events.

Beginners Note. The dice have nothing to do with moving units; they resolve the uncertainties inherent in even the best battle plans, and they introduce the effects of events taking place off-map on other fronts.

2.2 The Game Map

The map represents the militarily significant terrain found on the eastern front during World War I. A hexagonal (“hex”) grid is printed over the map to regulate the placement and movement of units. A unit is considered to be in only one hex at any one time. Each hex contains natural and/or manmade terrain features that can affect the movement of units and the combat between units.

The manmade and natural terrain on the map has been altered from their real-world configurations to fit within the hex-grid, but the relationships between the terrain from hex to hex are accurate to the degree necessary to present players with the same space/time dilemmas faced by their historic counterparts.

Each hex on the map has a four-digit, identification number. They help you find places more quickly (for example, Warsaw is in hex 2419), and allow you to record unit positions if a match has to be interrupted and the game temporarily put away before it can be finished.

The charts and tracks on the map are used for recording and resolving game functions. Details on their uses are explained in the appropriate rules sections below.

2.3 The Counters

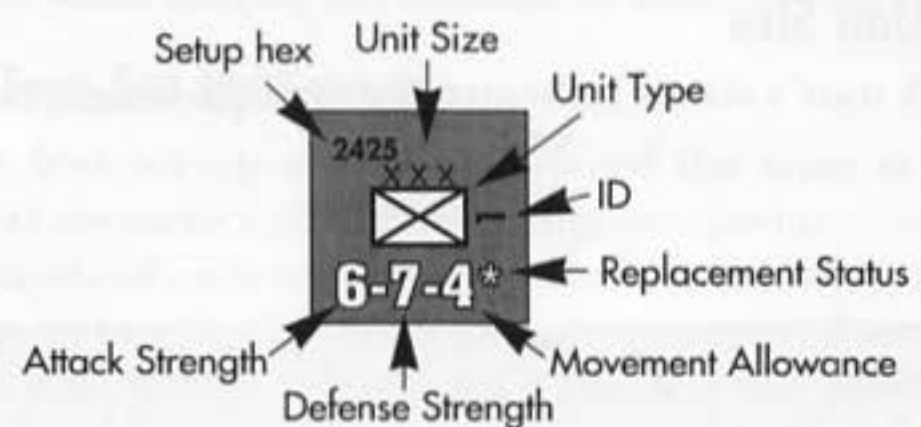
There are 171 counters included in the game, most of which represent combat units; a few others are provided as informational markers and memory aids. (The remaining five counters on the sheet are variant counters for another, previously published, XTR game.) *After reading through these rules at least once, carefully punch out*

the counters. Trimming the corners with a fingernail clipper will facilitate handling during play.

Each combat unit counter displays several pieces of information: nationality, historical identification, unit size, combat strengths, regular movement allowance, replacement status, turn of entry or initial placement hex.

2.4 Sample Combat Unit

This unit is the Austro-Hungarian *1st Corps*. It is a one-step infantry corps with an attack strength (factor) of 6, a defense strength of 7, and a movement allowance of 4. It starts Game Turn 1 in hex 2425. The asterisk means this unit can't be reclaimed from the deadpile (see 2.12).



2.5 Nationality

A unit's nationality, and therefore its “side,” is indicated by its color scheme.

The Central Powers Side:

German units — white on black

Austro-Hungarian units — black on gray (see 2.12)

The Russian Side:

Russian units: gold on green

Romanian unit: black on yellow

Design Note. The Turkish Corps is considered “German” for all game purposes (but see 10.2).

2.6 Historical Identification

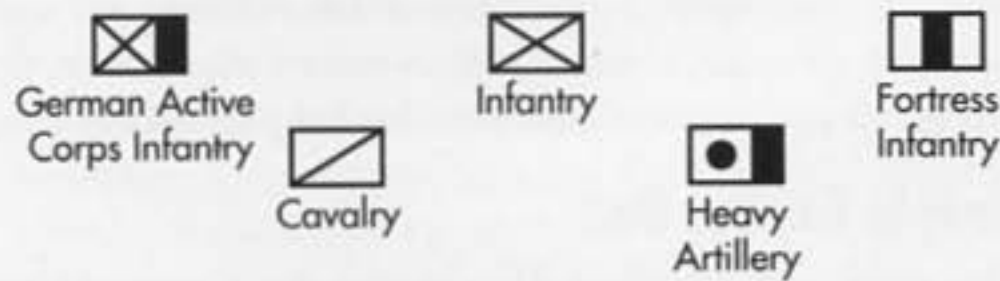
Each unit is identified by a number and/or a letter abbreviations of their full historical names. The abbreviations are listed in the box below. This information is provided for historical interest — it does not affect play.

BL — Breslau Landwehr	LTV — Latvian
C — Caucasus	NWF — Northwest Front
CR — Combined Reserve	PL — Posen Landwehr
FN — Finnish	R — Reserve
FNR — Finnish Reserve	RM — Romanian
FR — Fortress Reserve	S — Siberian
G — Guard	SWF — Southwest Front
GN — Grenadier	TL — Thorn Landwehr
GR — Guard Reserve	TN — Turkistani
H — Hungarian	TU — Turkish
KMR — Kummer Group	WL — Woyrsch
L — Landwehr	Landwehr

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2.7 Unit Types

The symbols in the center of the counters indicate the kinds of units used during these campaigns. They are:



Beginners Note. Set aside all Fortress Infantry and Heavy Artillery units; you won't use them in your play. Ignore all references to those units in the rules.

2.8 Unit Size

A unit's size is indicated by the following symbols.

XXX – Corps
XX – Division
II – Battalion

Design Note. If there's a bracket atop a unit's size symbol, that means it's an irregular or *ad hoc* formation of that approximate size. Note also the fortress infantry units don't have size symbols. Their peculiarities are discussed in 13.15.

2.9 Attack & Defense Factors

These two "combat factors" are separate measures of a unit's ability to conduct offensive and defensive combat operations. Their use is explained in section 13.0.

2.10 Movement Factor

This number is a measure of a unit's ability to move across the hex grid printed on the map. Units pay different movement costs to enter different hexes, depending on the terrain in the hexes entered.

2.11 Steps

All units in the game are either "one-step" or "two-step" units. Those with printing on only one side are "one-step units;" those with printing on both sides are "two-step units." **Important Exception:** See rule 2.12 below.

The steps contained in a unit are direct measure of its ability to absorb combat losses before being eliminated. When a unit is "eliminated" it doesn't mean every individual within it has been killed. It means enough casualties and equipment losses have been sustained by that unit to render it useless for further combat operations.

If a two-step unit "takes a step loss," it is flipped over so its reduced side (the one with the lower combat and/or movement values) shows. If a one-step unit (or a two-step unit that had already been "reduced" once) takes a step loss, it is removed the map (eliminated) and placed in the "deadpile."

2.12 Austro-Hungarian Step Strength.

Though it may not appear like it after first reading rule 2.11, *all* Austro-Hungarian units in the game are one-step units, including those with printing on both sides. The printing on the reverse of the darker-colored Austro-Hungarian units represents those formations' strengths after being reformed from the deadpile. For example, the Austro-Hungarian *1st Corps* starts the game as a 6-7-4 containing one step. — disregard the information on the lighter-colored reverse side. After the *1st* is eliminated in play — by suffering a step loss — it goes into the deadpile. If the Central Powers player expends a replacement point, the *1st* can be returned to play, but as a one-step corps with factors of 3-4-3 (one the reverse side). From that time on, no matter how many times the unit goes in and out of the deadpile, the original 6-7-4 side is ignored and the unit is always represented in play as a one-step 3-4-3.

Design Note. What we're getting at here is the fact the Austro-Hungarian army had certain morale and strength levels available to it at the start of the war that it was never able to replicate later, once casualties had begun destroying cadres and suppressing fighting spirit.

2.13 Other Counters

The use of the following counters is explained at appropriate points throughout the rest of the rules.



Beginners Note. Set aside all the counters shown above except for the Game Turn Marker; you won't use any of them in your play.

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3.0 Set Up

3.1 Choose Sides & Set Up

Choose which side each player will command. The "Central Powers player" commands all German and Austro-Hungarian units. The "Russian player" commands all units of that army and the single Romanian unit. Both players should then take all the units of their side and sort them into two piles, one for at-start units and another for reinforcement units.

"At start" units have four-digit hex numbers in their upper-left corners; reinforcements have one- or two-digit turn-of-entry numbers in their upper-left corners. Put all reinforcement units in the holding boxes of the Turn Record Track printed on the map. Place all at-start units in the hexes printed in their upper-left corners.

3.2 Romania

Romania is neutral at the start of play, and no units may move or attack into Romanian territory until that nation enters the war (see 15.6).

Ω 3.3 Slow Russian Mobilization

Russian mobilization was incomplete when campaigning started. Their corps deployed at an average 20% understrength. During Game Turn 1, all Russian combat units except fortress infantry have attack and defense factors one less than printed on the counters. Beginning with the start of Game Turn 2, the Russians have their full combat factors available.

3.4 Game Turn One

Place the Game Turn Marker in the first box on the Turn Record Track. The first game turn begins with the Central Powers Movement Phase; the Russian player turn portion of Game Turn 1 is considered to have already taken place and is skipped.

Ω 3.5 Austro-Hungarian 2nd Army

The three corps of the Austro-Hungarian *2nd Army*, caught in the middle of their redeployment from the Balkans, may not move or attack during Game Turn 1.

Design Note. The three corps of the A-H *2nd Army* have a "/2" printed behind their corps ID. The designation has no significance in play after Game Turn 1.

Ω 3.6 Austro-Hungarian Lock-Step Planning

The Central Powers player must launch at least three attacks by Austro-Hungarian units during his combat phase of Game Turn 1.

3.7 Full Strength

Two-step units start play at full (two-step) strength.

3.8 Hex Control

Every playable land hex on the map is controlled by one side or the other, never by both at the same time. This is important for judging supply, strategic movement and victory. At the start of the game, every hex in Germany and Austria-Hungary is controlled by the Central Powers player; every hex in Russia, including Russian-Poland, is controlled by the Russian player. (Since Romania is neutral at the start of play, its territory isn't controlled by either player, see 15.6.) During play the control of a hex switches from one side to the other whenever a ground unit from the other side first enters the hex in question. Control switching is immediate and may occur and reoccur in the same hex(es) any number of times during play.

Ω 3.9 Free Set Up Scenario

The free set-up scenario is played the same as the historical scenario with the following exceptions.

All units of each army (except fortress infantry) may be set up in any hex in the appropriate nation. Fortress infantry are deployed per the historical set up. The Russian player sets up first.

Ignore rules 3.4, 3.5 & 3.6. All other rules are in force as in the historical scenario.

4.0 How to Win

4.1 In General

The game is won by the first player who, by gaining control of key hexes held by his opponent at the start of the game, breaks the other side's will to fight. Each side has its own victory conditions that are checked for fulfillment at the end of every September and March/April game turn. Each also has the potential of winning a "Sudden Death" victory at any time.

During victory check game turns, the Russian player always checks his conditions first — if both players fulfill their victory conditions during the same victory check game turn, the Russian is declared the winner.

4.2 Sudden Death Victory

Either player wins an instant victory, and play stops immediately, at the moment any of his units enters an enemy capital city. The Central Powers player wins instantly if he takes Petrograd, and the Russian player wins instantly if he takes either Berlin, or Vienna, or Budapest.

4.3 Russian Victory

The Russian player is declared the victor if at the end of any victory check game turn any one of the following has occurred.

1. The Russian player controls three or more cities in Germany.
2. The Russian player controls the number (or more) of Austro-Hungarian victory hexes listed for that turn

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on the Turn Record Track. For example, if at the end of Game Turn 11 the Russian controlled 4 or more Austro-Hungarian victory hexes, he wins the game.

3. If at the end of Game Turn 24 the Central Powers player has not caused the Czar to fall, the Russian player is declared the winner.

Each game turn box on the Turn Record Track has the notation: "Rus Vic: #/3." The first number refers to the minimum number of Austro-Hungarian victory hexes the Russian player must control to claim victory; the second number is the number of German cities needed. Beside the cities, Czernowitz (3229), Przemysl (2726), and the mountain pass hex in 2529 count as Austro-Hungarian victory hexes. (The mountain pass hex in 2830 is *not* a victory hex because the terrain and railline layout there reduces its usefulness as an entry point into Hungary.)

4.4 Central Powers Victory

The Central Powers win by toppling the Czar. At the end of every victory check game turn, add up the number of cities the Central Powers control in Russia and Russian-Poland. Roll one die. Modify the roll if necessary (Old Hands see 4.5), and add the result to the number of controlled cities. If the combined total is equal to or greater than the "Revolution Occurs" ("Rev") number printed on the Game Turn Record Track, a revolution has occurred in the Russian Empire and the Czar has fallen.

Ω 4.5 Revolution Die Roll Modifiers

Modify the revolution die roll for each of the following that apply.

1. Plus one (+1) if the Czar has taken control of the army (Random Event A, see 7.2).
2. Plus one (+1) if the Brusilov Offensive has been launched (see 15.0).
3. Plus one (+1) if the "Peace, Bread, Land!" marker is deployed (Random Event L, see 7.2). If the marker is deployed and the Russian survives this victory check, remove the marker from the Turn Record Chart. It is eligible to be rolled again during Random Events generation. This process may occur any number of times during a game.
4. Minus one (-1) if the Czar has decreed reforms (Random Event B, see 7.2).

5.0 The Turn Sequence

5.1 In General

Each "Game Turn" of *WEF* is divided into two Player Turns (each consisting of several steps or phases) and a number of phases in which both players conduct activities. Every action taken by the players must be carried out in the sequence given below. Once a player finishes his activities for a given phase, he may not go back to perform some forgotten action or redo a poorly executed one unless his opponent graciously permits it.

5.2 The Turn Sequence

The turn sequence is given below. The rest of the rules are organized, as much as possible, to explain things in the order they are encountered through the game turn. The Russian Player Turn is the first each game turn. **Exception:** when play begins, the Russian Player Turn of Game Turn 1 is considered to have already taken place, so play begins with the "Central Powers Regular Movement Phase."

Beginners Note. Skip III.A, III.B, IV.C, V.C and V.D.

I. Random Events Phase (From Game Turns 5 to 24)

II. New Units & Withdrawals Phase

A. Russian

1. Reinforcements
2. Replacements
3. Withdrawals

B. Central Powers

1. Reinforcements
2. Conversions
3. Replacements
4. Withdrawals

III. Strategic Movement Phase (Ω)

A. Russian

B. Central Powers

IV. The Russian Player Turn

A. Russian Regular Movement Phase

B. Russian Combat Phase

C. Russian Attrition Phase (Ω)

V. The Central Powers Player Turn

A. Central Powers Regular Movement Phase

B. Central Powers Combat Phase

C. German OberOst Combat Phase (Ω)

D. Central Powers Attrition Phase (Ω)

VI. Victory Check (Game Turns 2, 6, 11, 15, 20, 24)

Ω 6.0 Central Powers Cooperation

Beginners Note. Skip this section. Treat German and Austro-Hungarian units as if they belonged to one nation.

6.1 In General

German and Austro-Hungarian units are limited in their ability to move and attack together.

6.2 German Units

German units may freely enter and occupy hexes of Austro-Hungarian territory using both regular and strategic movement. German strategic movement in and across Austro-Hungarian territory does not decrease Austro-Hungarian strategic movement capacity. German units

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may trace their supply lines across Austro-Hungarian territory and may draw on Austro-Hungarian fortress supply when in those hexes.

6.3 Austro-Hungarian Units

Austro-Hungarian units may never enter or cross through German territory using either kind of movement. They may trace their supply lines into and through Germany. No Austro-Hungarian unit may move north of (into OK) the xx20 hexrow unless stacked with a German unit while doing so; it must remain stacked with the German unit while north of that line.

6.4 Cooperation in Combat

German & Austro-Hungarian units may participate in the same combat only when they are stacked together. Combined German & Austro-Hungarian stacks may not cooperate in a given combat with pure stacks of either army unless those pure stacks are counted against the combined-stack limit.

Limits. During 1914 (Game Turns 1-4) only one German unit may be stacked with Austro-Hungarian units at any one time. From the start of 1915 through the end of the game (Game Turns 5-24), up to three German units may be in combined stacks. If the Russian player launches the Brusilov Offensive (see 15.0), the limit is raised by one German unit each game turn thereafter to a maximum of six German units. The limit remains at six for the rest of the game.

Ω 7.0 Random Events

7.1 In General

During the Random Events Phase of each game turn (starting at the beginning of Game Turn 5, never earlier), the Central Powers player rolls two dice and checks that result under the appropriate column of the Random Events Table printed on the mapsheet. This determines the Random Event that has just occurred. (For example, a roll of "7" on two dice at the start of Game Turn 5 would bring Random Event "A" into play.) Immediately place the corresponding Random Event Marker in the proper turn box on the Game Turn Record Track.

7.2 Random Events

Random Events represent events outside the players' direct control. Some simulate the effects of events in other theaters of war; some represent the effects of military decisions taken at higher command levels than that represented by the players. The preconditions (if any) and effects of each Random Event are described on page 18 of these rules.

Design Note. For further details on the procedures and details of withdrawals, see 10.15ff.

8.0 Stacking

8.1 In General

Stacking is the piling of more than one unit into a single hex. Both players may stack up to three corps in a hex. Divisions (XX) count as one-half of a corps.

8.2 Stacking & Movement

Stacking limits are in effect at all times. Players must pay attention to the order in which they move their units, or they risk having moving units blocked by carelessly made earlier moves. As long as the three-corps-per-hex at one time limit is observed, there is no limit to the number of units that may enter or pass through a given hex during a movement phase. See 12.5ff for more stacking effects on movement.

Old Hands Note. See also section 6.0 for more on Central Powers stacking.

8.3 Overstacking

If a hex is found to be overstacked at any time, the opposing player may remove the minimum number of units of his choice necessary to bring the stack within limits.

8.4 The Romanian Army

Once it enters play, the Romanian Army stacks like any Russian corps.

Ω 8.5 Free-stacking Units.

German heavy artillery battalions (II) stack for free, but no more than one may be in the same hex at the same time. Fortress infantry and headquarters markers don't count for stacking.

Ω 9.0 Supply

9.1 In General

Units require supply to operate with their full combat factors. Units are always either "supplied" ("in supply"), or "out of supply" ("OOS" or "cut off").

9.2 Movement Supply

Supply state has no effect on regular movement.

A player must check the supply state of every unit he wants to move using the strategic movement rules (see section 11.0). Any unit OOS at the start of its strategic movement phase is prohibited from using strategic movement that game turn.

Old Hands Note. Read that first sentence again — believe it. We mean it.

9.3 Combat Supply

Check supply for all units of both sides involved in a given combat at the instant the combat resolution is begun. Units OOS at the start of the battle have their pertinent combat factor halved for that combat. Round up remainders (half of "5" is "3"). If halving more than one combat factor for the same battle, add together all the factors to be halved, then make one division.

9.4 Attrition Supply

Check supply for all Russian (and Romanian) units at the start of each Russian Attrition Phase (IV.C). Check all Central Powers units at the start of the Central Powers Attrition Phase every game turn (V.D). Units OOS during their side's Attrition Supply Check are eliminated.

9.5 Tracing Supply Lines

Units are supplied when they can "trace a supply line" (across hexsides with some land in them), free of enemy units and no longer than four hexes, to a supply source. Tracing is done in the "mind's eye;" there are no counters representing the supplies consumed. When counting the length of the supply line, *don't* count the hex the unit itself is in; *do* count the hex the supply source is in.

9.6 Supply Sources

Supply sources are all town and city hexes that can trace their own supply line — of any length — from their own hex to a friendly board edge.

Central Powers units may trace supply to the western board edge (the 10xx hexrow) and/or the south map edge inside Austria-Hungary. Treat Königsberg (hex 2314) as having a permanent supply line by sea — any CP unit tracing 4 or fewer hexes to Königsberg is in supply.

Russian and Romanian units may trace to the eastern map edge. The Romanian unit traces supply as if it were a Russian unit, and Jassy becomes available as a source hex as soon as that nation enters the war.

Map edge hexes cease to be friendly when occupied by enemy units, but regain friendly status the instant such occupation ends (a process that may occur any number of times each game for each map edge hex). To use a given town or city hex as a supply source, it must be controlled by the side using it. Town and city hexes may switch control any number of times during play.

Historical Note. Since there were facilities in Austria-Hungary, such as the Skoda Works, it may seem inappropriate to have Austro-Hungarian units tracing their supply off the west and south board edges like their German allies. In fact, however, it was the German industrial concentration in the Ruhr, off map to the west, that more and more carried the main logistical burden for both armies as the war dragged on.

9.7 Other (Limited) Supply Sources

Units are always in supply in intact fortresses (see 13.15), and in their own national capital cities (Berlin for the Germans, Vienna and Budapest for the Austro-Hungarians, Petrograd for the Russians). Units drawing supply from these limited sources are fully supplied for defense and attrition check purposes only; they are OOS when attacking.

Units outside these hexes may only trace supply to them if those cities/fortresses are also functioning supply sources as given in 9.6.

9.8 Willful OOS

It is permissible for both players to use regular movement (*not* strategic movement) to move their units to hexes where they will be OOS.

9.9 Russian Ammunition Shortages

At the start of every Russian Combat Phase (after placing the Stavka marker, if it is going to be used that turn) that player rolls one die and consults the Ammunition Shortage Table printed on the mapsheet. Index the die roll with the Game Turn number to determine how many Russian units suffer the effects of ammunition shortages that turn. (For example, on Game Turn 2 a roll of "5" means four Russian units will suffer ammo shortages.)

9.10 Ammo Shortage Effects

Russian units suffering an ammo shortage have their combat factors halved (round up) for the remainder of the *game* turn. Out-of-ammo OOS units are not halved again; cut their factors in half just once.

9.11 Ammo Shortage Procedures

Each player may place half the ammo shortage markers (if the number is odd, the Russian gets the bigger half). The Russian player places his half first. The following restrictions apply.

1. Russian units in intact Russian fortresses, Petrograd, and supplied cities inside Russia-proper may not have shortage markers placed on them. Units in supplied cities inside Russian-Poland may suffer shortages.
2. Russian cavalry units may not be marked.
3. Russian Guard ("G") units may not be marked.
4. Units within command range of Stavka may not be marked.

9.12 Shortage Modifiers

If random event "H" is in effect and the Russian player controls Odessa (4233), subtract two (-2) from the shortage die roll. If the Brusilov Offensive has been completed, add one (+1) to the shortage die roll. These modifiers may be applied at the same time.

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9.13 Limits on Ammo Shortages

The shortage markers are placed atop particular units, not hexes. If available, more than one marker may be placed in a single hex to affect more than one unit, but no more than one marker may be placed per eligible unit. If markers are left over due to the restrictions in 9.11, they may not be used that turn.

10.0 New Units & Withdrawals

Beginners Note. Ignore all references to replacements and withdrawals in the rules below.

10.1 In General

Reinforcements are units entering (or reentering) play after the game begins. Any unit with a game turn number in its upper-left corner is a reinforcement unit.

Replacements arrive in the form of strength steps according to the schedule printed on the Turn Record Track on the map, and are used to reclaim units from the deadpile or to replenish weakened units on the map.

Both players will be called on to withdraw some of their units, either temporarily or permanently, from the map. Some withdrawals are mandated by particular random events; others occur automatically.

Reinforcements, replacements and withdrawals must be done in the exact sequence outlined in 5.2. Stacking restrictions apply during this phase.

10.2 Reinforcement Entry

Russian reinforcements enter the game turn indicated in the upper-left of the counters by being placed in any Russian (not Russian-Poland) cities under Russian control and with a functioning supply line at that instant.

German reinforcements enter by being placed in any west map-edge hex(es) containing no Russian units at that instant, or in Königsberg if it is German-controlled. **Exception:** the *TU Corps* enters via a south map edge hex inside Austria-Hungary.

Austro-Hungarian reinforcements enter in any Austro-Hungarian city(ies) under Central Powers control and with a functioning supply line at that instant.

Ω 10.3 Russian Conditional Reinforcements

The Russian *1C* and *2TN Corps* are marked "REG" in their upper-left corners, meaning their entry is triggered by Random Event G (see 7.2). Once triggered to enter, these units are brought into play like regular Russian reinforcements.

Ω 10.4 Romanian Entry

The Romanian *4th Army* unit enters at Jassy (3532) at the start of the third game turn after the Russian declares

the Brusilov Offensive (hence the "B+3"). For example, if the Brusilov Offensive began on Game Turn 15, the Romanian army enters on Game Turn 18. See 15.0.

Ω 10.5 German Conditional Reinforcements

The seven German conditional reinforcements are triggered by the Brusilov Offensive in the same way as the Romanians. These units enter as German reinforcements on the first, second and third turns after the start of the offensive. See section 15.0.

Design Note. Except as directed by certain random events, there are no Austro-Hungarian conditional reinforcements.

10.6 No Delays

Reinforcements may not be withheld by the player receiving them until later turns. If for any reason they are not entered into play during the game turn printed on their counter (or mandated by random events, etc., in the case of conditional reinforcements), they are forfeit and permanently out of play.

Design Note. If you don't need them, some other front commander certainly does.

Ω 10.7 Reinforcement Miscellany

All reinforcements enter play supplied, and have all their regular and strategic movement and combat capabilities available for use on the turn of entry. German west-edge (only) reinforcements are eligible for strategic movement that same turn, as though their starting hex(es) were a town or city (see section 11.0). Two-step reinforcements always enter at two-step strength. For purposes of entry and/or reentry into the game, conditional reinforcements are considered exactly the same as regular reinforcements.

Ω 10.8 Replacements

Replacements are levies of new troops and equipment (not represented by counters) used to replenish units weakened by combat losses but still in play on the map, or to reclaim eliminated units from the deadpile. Replacements are received and used in "step" increments — each replacement step recreates or replenishes one step of unit strength.

Replacements are awarded by specific nationality — German, Austro-Hungarian, and Russian. The two Central Powers may not lend replacements to each other. The replacement step schedule is printed on the Turn Record Track on the map. For instance, in the Game Turn 6, the notation: "G2/A2/R5" means the Germans receive two replacement steps, the Austro-Hungarians two, and the Russians five.

Ω 10.9 Accumulating Replacements

At the start of the game, neither side has any replacement steps accumulated, but both players may accumulate up to four steps for each of the three nationalities. Any beyond that not used the turn they're received are forfeit. (Also see Random Event K, in rule 7.2).

Ω 10.10 Non-Replaceable Units & Steps

Any unit with an asterisk (*) printed next to its movement factor is non-replaceable — it may never receive replacement steps. For example, this category includes all fortress infantry and the Germans' heavy artillery battalions.

Note that the Russian Guards infantry units have asterisks on both sides. That means they may neither be replenished to full strength while weakened but still on the map, nor may they be reclaimed from the deadpile once eliminated.

Ω Old Hands Note. In case you skipped it earlier, this would be a good time to go back and read 2.12 concerning Austro-Hungarian step-strength.

Ω 10.11 Replenishing

A reduced two-step unit on the map can be replenished to full strength (flipped back over so its higher factors show again) if an appropriate nationality replacement step is available and the unit in question is in supply to a friendly board edge source hex. The unit may be adjacent to enemy units. Unit replenishments take place after the owning player has received and placed all reinforcements (and for the German, after any conversions — see 10.14 below). Units being replenished suffer no movement or combat penalties.

Ω 10.12 Deadpile Replacements

Unasterisked units (see 10.9) may be reclaimed from the deadpile in either their one-step or two-step state (it requires one replacement step to bring a unit back at reduced strength, two to do it at full strength). Eligible units may be reclaimed from the deadpile any number of times during a game, no matter what the circumstances of their destruction. The reclaimed units reenter play as if they were reinforcements.

Ω 10.13 Replacement Miscellany

Once used, a replacement step is committed to its receiving unit, and may not be recalled or transferred to another unit. Except for the restrictions given above, there are no limits to the number of replacement steps both sides may commit during each New Units & Withdrawals Phase. It is *not* mandatory to replenish or recreate a unit simply because it is eligible to receive replacements and the steps are available to do it.

Ω 10.14 German Fortress Garrison Conversion

There are three German fortress infantry units that undergo partial conversion into *Landwehr* infantry corps. This occurs on Game Turn 2 for the Posen and Thorn garrisons, and on Game Turn 4 for Breslau. At those times (assuming the original fortress hasn't fallen to the Russians and is in supply to the friendly board edge), remove the original fortress infantry units and replace them, in-place, with the new (0-1-0) fortress infantry counter and corresponding *Landwehr* infantry corps. If the fixed conversion times are missed for any reason, the opportunity is forfeit.

Ω 10.15 Withdrawals

Units may be withdrawn from the map for service in other theaters. Withdrawals are called for on the Turn Record Track and by the triggering of certain Random Events. To be eligible for withdrawal, a unit must be in supply to a friendly board edge supply source hex. No movement is involved; pick up the selected unit and set it aside off the map. (Withdrawals do *not* use up strategic movement capacities, see section 11.0.)

Ω 10.16 Russian Guards Withdrawal

On Game Turn 13, to facilitate the formation of the Guards Army, the Russian player must withdraw his "G" corps. If the full strength unit is not available at that time for any reason(s), the withdrawal is cancelled and the three units of the Guards army never enter.

Ω 10.17 Central Powers Balkan Withdrawal & Return

On Game Turn 12, to provide troops for the offensive against Serbia, off the map to the south, the Central Powers player must withdraw four steps of German infantry and two steps of Austro-Hungarian infantry (six steps total). These withdrawals must be made as some combination of one- and/or two-step units — the withdrawal requirements may not be met by reducing two-step units. The units withdrawn for the Serbian invasion are returned as reinforcements during Game Turn 14.

Ω 10.18 Random Event Withdrawals & Returns

Whenever either player is called on to make withdrawals by the occurrence of a random event, the procedures are the same as in 10.16 (including any returns).

Ω 10.19 Failure to Withdraw

If either player fails to fully satisfy any mandated infantry withdrawal, he instantly forfeits the game to his opponent.

Exceptions: there is no effect on the game if the German can't make a heavy artillery withdrawal or a fortress garrison conversion, because those units are cut off or in the deadpile or if the Russian fails to make his Guard Corps withdrawal.

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Ω 11.0 Strategic Movement

11.1 Strategic Movement

This describes the shifting of units from one sector of the front to another (as opposed to the battlefield shifts of regular movement) by rail and/or road—convoy. Strategic movement takes place from population center — town and/or city hexes — to population center. Exception: during their turn of entry, German reinforcements are eligible for strategic movement from west map—edge hexes.

11.2 Procedure

To be eligible to use strategic movement, a unit must begin the Strategic Movement Phase already in a town or city hex from which a supply line can be traced to its friendly board edge. From its starting location, the unit may move any number of land hexes across passable land hexsides (and within the other limits given below), ending its move in any other friendly controlled population center that is also in supply to the appropriate friendly board edge. Units using strategic movement may also use regular movement, and may participate in combat, that same player turn.

11.3 German Limits

The Central Powers player may move up to 6 German units per game turn using strategic movement during 1914 and 1915, and up to five per game turn thereafter. As long as the conditions in 11.2 are met, German units may move from population center to population center anywhere on the board. (Romania, of course, may not be entered or crossed before that nation is in play.) German units using strategic movement in Austria–Hungary do *not* decrease that nation's strategic movement capacity. During 1914 and 1915, no more than three of the German units using strategic movement on any given turn may start or end their move in Russia (including Russian–Poland). From the start of 1916 on, that limit is removed.

11.4 Austro–Hungarian Limits

The Austro–Hungarians may move up to four units per turn by rail, but in addition to the limits in 11.2, such moves may only take place within Austro–Hungarian territory.

11.5 Russian Limits

The Russian player may move up five units per turn by strategic movement in 1914 and 1915, and only three thereafter. In addition to the limits in 11.2, such moves may only take place within Russia and Russian–Poland.

11.6 Off Map Strategic Movement

A unit using strategic movement may exit the map through its friendly map edge and reenter through another such hex on the same map edge.

12.0 Regular Movement

12.1 In General

Every unit in the game has a Movement Allowance (or Movement Factor) in the bottom–right corner. That factor is the number of “movement points” (also called Movement Factors MF, or MP) available to the unit to move across the hex grid of the map during its side's Regular Movement Phase.

Units move from hex to adjacent hex (no “skipping” of hexes is allowed), paying varied costs to do so, depending on the terrain in the hex being entered. The movement of each player's units takes place only during his own player turn's regular movement phase — no enemy movement takes place during your own player turn. (Exception: retreat after combat, see 13.22.)

12.2 Limits

MPs may not be accumulated from turn to turn, nor may they be loaned from one unit to another. A player may move all, some, or none of his units, as he chooses, in each of his Regular Movement Phases throughout the game. Units that move are not required to expend all their available MPs before stopping. The movement of each individual unit or stack must be completed before that of another is begun. A player may only change the position of an already moved unit or stack if his opponent allows it.

12.3 Minimum Movement Ability

Any unit with a printed movement factor greater than zero (0) is guaranteed the ability to move at least one hex during its Regular Movement Phase by expending all available MPs. This guarantee does not allow units to enter hexes or cross hexsides that are otherwise impassable to them. For example, units may never move across all–sea hexsides (such as from hex 2412 to 2413).

12.4 Enemy Units

Units may never enter hexes containing enemy units.

Ω Old Hands Note. See 13.18 for an exception.

12.5 Stack Movement

To move together as a stack, units must begin their Regular Movement Phase already stacked together. Units are not required to move together simply because they started the Regular Movement Phase in the same hex; those units may be moved together, moved individually, or moved in smaller sub–stacks.

12.6 Splitting Stacks

When moving a stack, it may halt temporarily to allow a unit or sub–stack to split off and move away on a separate course. The units left behind in the original (or

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“parent”) stack may then resume their own movement, even splitting off other units and sub-stacks. Once a different parent stack (or individual unit that began the phase in a different hex) begins moving, the earlier-moving stack may not resume its movement without the other player’s consent.

12.7 Different MFs in a Stack

If units with different movement factors are traveling together in a stack, the stack must use the movement factor of the slowest unit. As the slower units exhaust their MFs, they may be left behind and while the faster units continue moving.

12.8 Terrain & Regular Movement

Most land hexes on the map can may be entered at the cost of one movement factor each; the exceptions are Forests, Marshes, and Mountains. Those kinds of hexes cost a regularly moving unit two MPs each to enter (but treat Marsh hexes as clear terrain during Jan/Feb game turns). These costs are summarized on the Terrain Effects Chart printed on the mapsheet.

12.9 Rivers

A hex is considered “a river hex” (in addition to whatever other terrain is also in the hex) if any portion of a river symbol lies in it. If more than one river enters or crosses a given hex, it is still just a river hex — there are no multi-river effects

There is no additional movement cost to enter a river hex.

Ω Old Hands Note. Yes, the rivers run in-hex in this one.

12.10 Mountain Passes

The mountain passes in hexes 2528, 2529 and 2830 allow units to move through those mountain hexes paying only one MP per hex, instead of the normal two. Units receive this bonus only when moving from pass hex to pass hex along the course of the pass.

For example, a unit in 2628 moving to 2528 does so for a cost of one MP; however, a unit in 2628 moving to 2629 would have to pay two MPs because by going that way it is not following the course of the pass.

12.11 Water Movement

There is no “sea movement” in this game. Units may move along coastal hexes (those containing both land and sea) normally, provided only that the hexsides crossed contain some land.

During January/February game turns, units may use regular movement (not strategic) to cross lake hexsides, but they may never attack through them. Units may never move or attack across all-sea hexsides.

13.0 Combat

13.1 In General

Combat takes place between opposing units during the the Combat Phase in both player turns (Old Hands: and during the German Ober-Ost Combat Phase). Attacking is always voluntary; being adjacent to an enemy unit does not necessitate combat. The player whose player turn it is, is considered “the attacker,” and the other is “the defender,” no matter what the overall situation on the map.

13.2 Multiple Defenders

If there are two or more enemy units in a hex, the stack must be attacked as if it were one large, combined, defending unit.

13.3 Multi-Hex Attacks

An enemy occupied hex may be attacked in one battle by as many units as can be brought to bear from one, some, or all of the surrounding hexes. No more than one hex may be the object of a single attack. For example, a unit in 1820 may not attack enemy units in 1919 and 1920 during the same combat phase.

Ω Old Hands Note. See 6.4 for the limits on German and Austro-Hungarian cooperation in combat.

13.4 Indivisibility of Units

No single attacking unit may have its attack factor divided and used in more than one battle. No defending unit may have part of its defense factor attacked by one or a few attackers, while another part of that defense factor is attacked by other enemy units. No attacking unit may attack more than once per combat phase. No defending unit may be attacked more than once per combat phase.

13.5 Attack Sequencing

There is no artificial limit on the number of attacks each player may set up during his combat phases (exception: see 3.6). The attacker need not declare all his attacks beforehand, and he may resolve them in any order he wishes, as long as the resolution of one is completed before that of the next is begun.

13.6 Stacks Attacking

It is not necessary for all the units stacked in a hex to participate in the same attack. Some of those units might attack into one defender hex, while others attacked into some other(s), or simply didn’t attack at all. No defending unit may refuse combat.

Ω Old Hands Note. See 13.27 for an exception to that last.

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Ω 13.7 Fog of War

The Russian player may never look beneath the top unit of Central Powers stacks until the odds computation is made. Once such an examination has been made, the Russian player may not call off that attack. The Central Powers player is always free to examine Russian stacks.

Design Note. This disparity is due to the Russians' incredible sloppiness with communications security all through the war.

Beginners Note. In your play, both players are always free to examine their opponent's stacks at any time.

13.8 Combat Procedure

Normally, the attacking player should strive to have more attack factors involved in a given battle than the defender has defense factors. Such battles are called "high odds attacks." To resolve such fights, the attacking player must begin by calculating his "odds." Do that by adding up the attack factors of all the attacking units involved in the battle; then add up the defense factors of the enemy units defending in the battle. Divide that defender-total into the attacker-total and round off (down) any remainder.

High Odds Example: 26 attack factors vs. 7 defense factors yields an odds ratio of 3:1. That is: $26 \div 7 = 3.71$, which rounds down to 3. To turn that "3" into a ratio, you must set a "1" next to it on the right. Thus "3" becomes "3:1" (which is read "3-to-1"), which corresponds to a column heading on the Combat Results Table (CRT) printed on the mapsheet.

Old Hands Note. Don't forget supply effects (OOS=halved) when figuring your odds.

13.9 Poor Odds Attacks

Battles in which the attacking force has fewer combat factors than the defender are called "poor odds attacks." Procedures are modified in that now you divide the defender's total by the attacker's, round remainders up, and set the "1" on the left side.

Poor Odds Example: A force with 5 attack factors is attacking a force with 11 defense factors. Divide 11 by 5 ($11 \div 5 = 2.2$), and round up (2.2 becomes 3), then set the "1" on the left of that "3," yielding odds of 1:3.

Beginners Note. "High Odds" and "Low Odds" attacks are simply terms of convenience, good for nothing more than indicating which of the two odds calculating procedures you'll use for a given battle. It's

possible to have successes with low odds attacks, and fiascos at high odds. In general, though, the higher your combat odds, the better the chances for success in any attack. That is, you want to be attacking on the right side of the CRT. Of course, in situations where the two sides have precisely the same amount of combat factors, no mathematics are necessary; odds will be 1:1.

13.10 Odds Limits

Note the column headings on the CRT range from 1:2 to 5:1. Odds worse than 1:2 always yield a combat result of "E/0. Odds higher than 5:1 are resolved at 5:1 (but see 13.12).

13.11 Die Roll Modifiers (DRMs)

After the combat odds for a battle have been calculated, players must total the DRMs that apply to that fight. All terrain DRMs are generated by the terrain in the defender's hex; the terrain in the attacker's hex(es) have no effects.

Positive DRMs favor the attacker, and negative DRMs favor the defender. All DRMs that apply in a given battle are cumulative. After determining all the modifiers that apply, combine them to come up with one total — either zero, or a positive or negative number. For example, in a battle where the defender had -3 DRMs, and the attacker had +2, the final effect would be to modify the combat die roll by -1. [That's $(-3) + (+2) = -1$.] The final modifier of -1 is applied to the die roll for that combat. Note that no die roll may be modified to a number less than one or greater than nine.

13.12 Super High Odds Attacks

For attacks above 5:1 odds, treat every odds multiple above 5:1 as a +1 DRM. For example, an attack at 7:1 odds would be resolved on the CRT (where no other modifiers applied) as a 5:1 with a DRM of +2.

13.13 Terrain DRMs

City, River, and Marsh hexes each generate a -1 DRM, Mountains generate a -2 DRM. Note that terrain DRMs are cumulative, so, for example, if a defender were located in a Marsh hex that also contained a river, the terrain DRM would be -2.

13.14 Cities

Russian units defending in cities in Russia-proper (but not in Russian-Poland) receive a -2 DRM. In all other cases, units defending in cities receive only a -1 DRM.

Ω 13.15 Fortresses

The fortress infantry counters represent both those garrison troops and the defensive works they occupy.

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Units defending in fortresses receive a -1 DRM in addition to any other modifiers. The city of Kovno (2913) does not generate any DRM.

Units defending in fortresses are never subject to the Concentric Assault DRM and are always in supply (but not while attacking). Fortress units do not count toward stacking limits.

Fortress units defending alone are affected by "E" results only; they ignore number results. If field units are stacked in fortress hexes, the field units give up the defender retreat option and must absorb all numeric combat results as in-hex step losses. In mixed-stack situations, the fortress counter will be the last surviving defender step, and it remains unaffected until such time as the attacker gets an "E" result against it (see 13.24).

Once a fortress unit is destroyed it may never be brought back into play and its hex is no longer considered a fortress, even if retaken by the original owner.

Ω 13.16 Concentric Assault

If a defending hex is attacked by units in opposite hexes, or by units in three hexes with one hex between each and the next, or by units in more than three hexes, that attack gains a positive DRM. If the defenders in such a situation are all Austro-Hungarian, or are a combined Austro-Hungarian/German stack, or are Russian or Romanian, the DRM is +2; if the defenders are all German, the DRM is only +1.

In the diagrams below, the defending unit in the center is being concentrically assaulted. Note that the presence of units friendly to the defender in any adjacent hexes does not nullify this DRM.

Ω 13.17 Brusilov Offensive

Russian units attacking as part of the Brusilov Offensive may receive positive DRMs (see section 15.0).

Ω 13.18 German Heavy Artillery

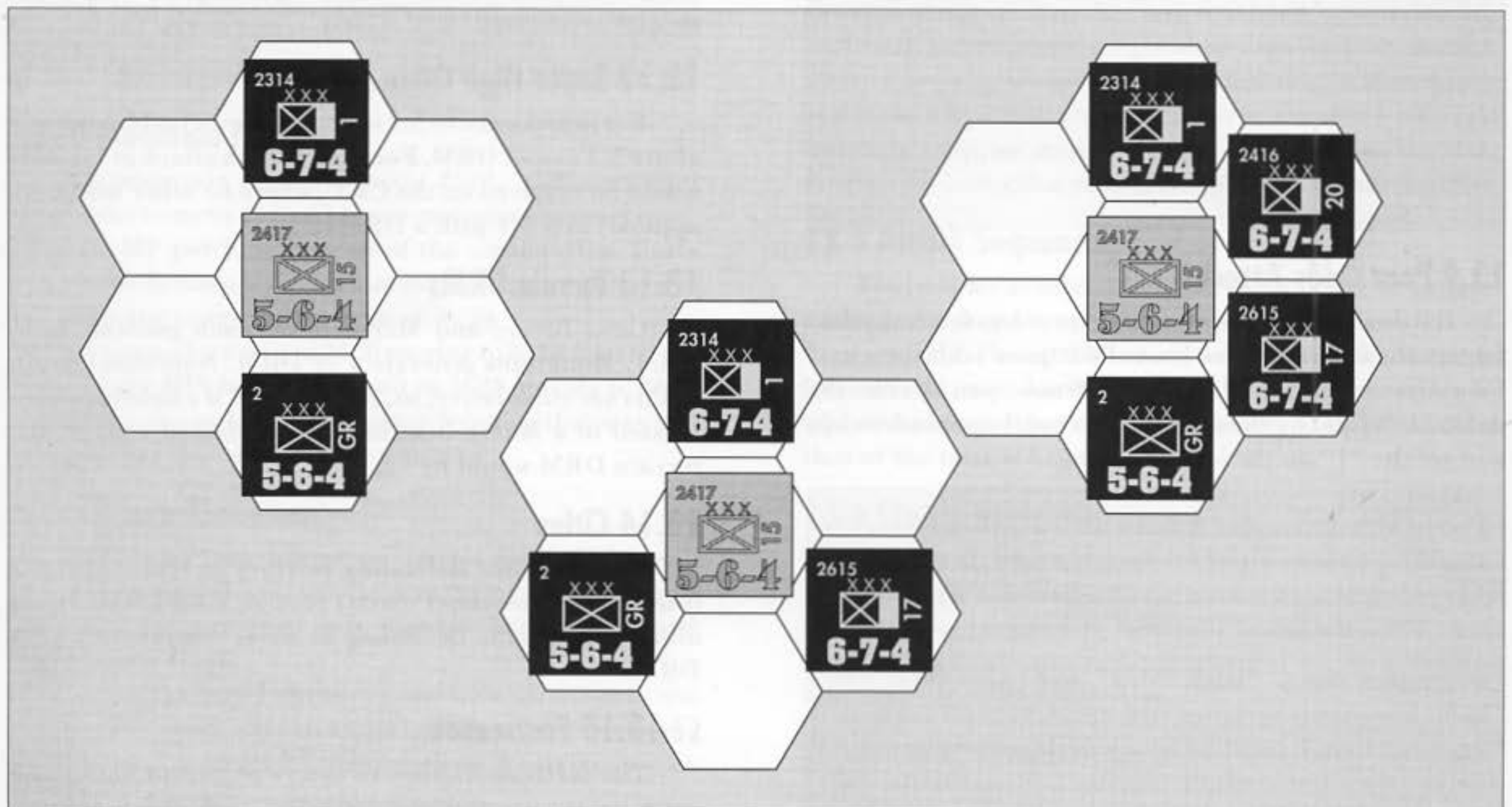
The two German heavy artillery battalions may never attack alone, but when supplied from a board edge and stacked with other attacking German units (only), they generate a +3 DRM. Only one heavy artillery DRM may be applied to one battle, but that DRM may be combined with the +1 DRM for German Active Corps (see below, 13.19).

The heavy artillery units have no step, stacking, or combat values. In combat they share the fate of the last Central Powers non-artillery step in the stack. They may advance after combat (one hex only) if accompanying non-artillery advancers from their hex. If caught alone in a hex, Russian units may enter the hex at no extra cost, instantly destroying the artillery units.

Ω 13.19 German Active Corps

In any combat involving one or more full-strength and supplied German Active Corps, the Central Powers player receives a favorable DRM of one (+1 on the attack, -1 on the defense). The modifier does not go above one no matter how many active corps are involved.

Design Note. The German Active Corps contained the bulk of the pre-war German NCO corps, and were the only corps-level units equipped with organic medium artillery. Chalk up the loss of the DRM on the reverse sides to "disruption" and heavy leadership casualties.



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13.20 Final Combat Resolution

After the final combat modifier amount has been determined, the attacking player rolls one six-sided die. Apply the final DRM amount to the number rolled and consult the CRT. Cross-index the modified result under the appropriate odds column to get the combat result. For example, a die roll of "6" at 3:1 odds yields a combat result of "1/E."

13.21 Combat Results

The number or letter to the left of the slash applies to the attacking force; the number or letter to the right applies to the defenders. The numbers are called "Loss Points," and may be absorbed in one of two ways: 1) Step Loss; and/or 2) Defender Retreat. (For letter results, see below, 13.24.) The defender must always completely absorb his combat result in a given battle before the attacker absorbs his.

13.22 Defender Retreat

Only the defending player has the option of retreating all his involved units in a battle one hex (no more) to satisfy one increment of his combat result. (Fortresses and units defending in them never retreat, see 13.15.) Retreating units may move to any adjacent empty hex. (If there's more than one available, pick the one that takes the unit closer to its friendly board edge.)

These retreats-after-combat do not require the expenditure of any movement points and have nothing to do with other kinds of movement, but such units must still observe normal movement prohibitions. For example, they can't retreat across an all-sea hexside. Note also that retreating is an all-or-nothing proposition for the units involved — all go, or all stay. The retreat — no matter how many units make it — only satisfies one increment of the combat result.

If defending units from one battle retreat into a hex containing other friendly units, and that new hex comes under attack that same phase, the units that retreated into the new hex in no way contribute to their new location's defense. If the defenders in that new hex receive any losses, the retreated-in units from the earlier battle are automatically eliminated, and their loss does not satisfy any part of the new battle's combat result.

The retreat option is never available to attackers.

13.23 Step Loss

Every step of strength given up from involved units satisfies one increment of the combat result. For example, flipping a two-step unit to its reverse side satisfies one increment of combat result; eliminating it entirely would satisfy two increments, etc.

Step losses may be apportioned by each player among his involved units as he sees fit, as long as each completely satisfies the step-loss amount called for by the CRT

result. (Old Hands: see 13.15 and 13.18 for exceptions to the above.)

Beginners Note. If more step losses are called for by the combat result than are actually present on that side in a battle, ignore the surplus. There are no carryovers to other battles or turns.

13.24 "E" Combat Results

"E" stands for "eliminated;" pick up all involved units of the affected side and place them in the deadpile, no matter what their total step strength.

13.25 Advance After Combat

Whenever the defender's hex in a battle is left vacant of defenders after the combat result has been satisfied, surviving attacking units may immediately move into that hex. Normal stacking limits apply, but just like retreats after combat, these advances don't require the expenditure of MPs. This is a free option given to victorious attackers; victorious defenders never advance.

Advances are not mandatory, but the decision to do so must be made immediately after the battle is resolved, and before that of the next is begun. The attacker need not advance all surviving attackers; he may advance one or more units, subject to stacking limits in the newly-won hex.

Ω 13.26 Breakthrough Advance

If the attacker obtains a Breakthrough ("B") result (which always occurs in conjunction with a defender "E" result), all his involved units in that battle may advance up to three hexes. The first hex entered must be the hex just attacked, and units must stop upon entering the first swamp or non-pass mountain hex.

In addition, friendly units stacked with or adjacent to the breakthrough attackers — and that have not attacked and will not attack that same combat phase — may also advance up to two hexes, subject to normal stacking limits and the terrain limits given above. The first hex advanced into may be either the defender's vacated hex or a hex just vacated by an advancing breakthrough attacker. This kind of advance is an option just like those in 13.25. German heavy artillery units may never advance more than one hex.

Ω 13.27 Cavalry Retreat Before Combat

A cavalry unit(s) defending alone in a hex and attacked by a force containing no cavalry may retreat before combat. The owning player announces his decision and retreats one hex (as in 13.22) before the resolution die is rolled. The attacker may advance into the vacated hex (as in 13.25) and announce a new attack with those units — possibly against the same cavalry unit again, thus setting off a chain of such moves.

Ω 14.0 Stavka & OberOst

14.1 In General

The Stavka and OberOst counters represent concentrations of logistic and command resources. The two units have different effects. Neither counter represents an actual "unit;" they are markers, without step or combat values, placed on the board as effort-indicators.

14.2 Stavka

The Stavka marker becomes available to the Russian during Game Turn 2. It may not be employed on two consecutive game turns. For example, if it is used on Game Turn 2, it could not be used again until Game Turn 4.

To commit Stavka to a battle, the Russian player places it atop any Russian unit with a supply line. Place it before rolling for ammo shortages. All Russian units in and adjacent to that hex receive a favorable DRM of one when attacking and defending that game turn. In addition, Russian units stacked with or adjacent to Stavka may not have ammo shortage markers placed atop them (see 9.9). The DRM is not available in a combat if the STAVKA-directed units are cooperating with non-STAVKA-directed units in the same combat.

Stavka is removed at the end of the game turn, or whenever its hex is entered by Central Powers units. It may never be eliminated (except by Random Event "A"), nor may it be given up to satisfy step losses, nor can it advance or retreat after combat.

14.3 OberOst

OberOst is available to the German on Game Turn 1. It may not be used on consecutive game turns. To use it, place it in any hex containing one or more German (only) units in supply to the friendly board edge at the start of his (regular) Combat Phase. It remains in that hex until the end of the OberOst Combat Phase.

OberOst has only one effect. All map-edge-supplied German (only) units within two hexes of it at the end of the regular Central Powers Combat Phase may attack again during the OberOst Combat Phase. These attacks may be made against any adjacent Russian unit(s), regardless of whether the attacking and defending units participated in the regular combat phase. Trace the OberOst activation range for as if tracing a supply line (see 9.5).

Design Note. The primary effect of the OberOst Combat Phase is to allow the Germans to set up concentric attacks against the Russians (and perhaps take otherwise too-strong fortresses in one game turn). Technically, the OberOst unit should be referred to as *Oberste Heeresleitung (OHL)* on turns seven to 10, when the H-L team was temporarily forced into the background by the arrival in the east of Gen. Falkenhayn.

Ω 15.0 The Brusilov Offensive

15.1 The Brusilov Offensive

Between Game Turns 15 and 18, inclusive, the Russian may declare he is launching the Brusilov Offensive. The offensive is not mandatory; it is a strategic decision. The offensive must be declared at the beginning of the Russian combat phases during one of the eligible turns. Only one Brusilov Offensive may be declared per game.

Place the "Start Brusilov Offensive" marker in the current box of the Turn Record Track to show when the push began. The offensive lasts for three game turns—for example, if the offensive were declared on Game Turn 15, it would last through that game turn and 16 and 17.

15.2 Effects

During the game turn the offensive is declared, all Russian attacks against hexes containing only Austro-Hungarian units made at odds of 1:1 or 2:1 receive a DRM of +3. During the following game turn the modifier drops to +2. On the third turn of the offensive it is reduced to +1.

The Stavka counter may not be used to support Brusilov Offensive DRM attacks.

Design Note. To achieve surprise, Gen. Brusilov violated the standard practice of massing reserves at the points of attack, knowing such concentrations would not go unnoticed. This tactic is reflected in the limit of the special DRM to attacks made at 1:1 and 2:1.

15.3 The Czar

If the Czar has taken command (Random Event A is in effect), no more than one Russian attack may be made north of hexrow xx20 during the three turns of the Brusilov Offensive. This restriction is lifted if the Central Powers player in turn makes more than one attack per turn north of the xx20 hexrow during the Brusilov Offensive.

Design Note. Brusilov's attack was intended by Stavka (if not by Brusilov) only as a diversion to pull German reserves away from Evert's "main offensive" in the north. In the event, a frightened Evert failed to strike a major blow. It's assumed if Nicholas II were not in command of the army, some sterner hand would have forced Evert to attack.

15.4 Increased Central Powers Stacking

German & Austro-Hungarian Stacking limits are immediately increased, see 6.4.

15.5 German Conditional Reinforcements

These begin arriving the first turn after the start of the offensive, see 10.5.

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15.6 Romanian Entry

Romania enters the war on the side of Russia on the third game turn after the declaration of the Brusilov Offensive (B+3). The unit enters play via Jassy (3532), and is treated as a Russian unit for supply and combat purposes, but it may never move north of hexrow xx29.

15.7 Revolution

One is added to all revolution die rolls made after the start of the offensive.

15.8 Ammo

One is subtracted from all Russian Ammunition Shortage die rolls starting the turn after the offensive ends (B+3). This represents the drain on Russian ammo stockpiles after such a sustained major offensive.

16.0 Designer's Notes

When Eagles Fight is actually a reworking of an unpublished game I designed earlier titled *Armies of the Czar*. The original game covered these campaigns on a smaller scale, and ended in September 1916, after the Brusilov Offensive. *WEF* has a broader focus, and continues the struggle until the fall of the Czar.

The situation on the eastern front in the First World War was in some ways even more complex than it was in the Second, but the major strategic questions remain fairly simple. Could Germany, fighting on two fronts, bring enough force to bear to knock Russia out of the war? Could the inefficient and unstable Russian government hold together under the strains of world war? For the Central Powers, matters were complicated by the weakness of Austria-Hungary, so the possibility of Vienna's collapse remained Berlin's nightmare and Petrograd's hope throughout the war. By keeping the game focused on these issues, I was able to cut away a lot of complexity while keeping it firmly grounded in history.

The most important carryover from my original design is the Random Events. Unlike games where random events do no more than add variety, here those rules are central to successful play. Players are not fighting these campaigns in isolation, and the random events serve as a reminder (especially for the Central Powers player) they are conducting the operations of only one theater of a larger war. It's for that same reason players are limited to the role of commander in the east (or west for the Russian player), rather than commander-in-chief.

Perhaps the most controversial rules in the game are those dealing with the Russian Revolution. A Central Powers player who controls as many Russian cities as his historic counterpart did in March 1917 may complain when the roll of a die leaves the Czar in power. "Victory is just a matter of luck!" the loser may exclaim.

Luck does play a part, and intentionally so. The historical reality was no one in Germany or Russia knew

how much pressure the latter's autocracy could withstand before crumbling, and *WEF* players are faced with that same uncertainty — but the players do know the more cities the Central Powers control the greater the chance of revolution. The player who wants to minimize the luck of the die has the ability to do so by taking (or keeping) more cities.

Of course, no one could be certain what it would take to knock Austria-Hungary out of the war either, so why not have another die roll for the collapse of that empire? Because an Austro-Hungarian defeat in the game would not mean the Central Powers have been knocked out of the war. True, such a setback to Berlin's war effort would mean the chance of final victory over the Allies has been greatly reduced, but it would not of itself take the Central Powers out of the war.

The combat results table went through many different formats, but I think the one finally included here works best to recreate the tactics used on this front. The breakthrough result realistically limits post-combat movement. Breakthroughs at this scale were usually achieved by the massing of guns to batter a hole in the enemy line, as with the famous "Mackensen Wedge." Only the Germans had enough heavy artillery to make use of that type of attack, but the Russians can get the same effect with the surprise tactics of their Brusilov Offensive against the hapless Austro-Hungarians.

There are no Austro-Hungarian or Russian cavalry among the starting forces because in 1914 those units were all wedded to obsolete tactics ("Charge!") that succeeded in nothing more than getting the horsemen shot flat to no good effect.

Only the Russian suffers the effects of the ammunition shortage rule, because the shortages the Central Powers faced were nothing compared to the supply problems of the Czar's army. In the spring of 1915, Russian artillery units were limited to four shells per gun per day. Many Russian divisions had rifles for less than half their men, and bullets were nearly as scarce as shells. By 1916 many of these shortages were temporarily overcome, and in the game the Russian player can breathe easier by around turn 12.

While the Stavka unit is important to the Russians, proper use of the OberOst HQ is vital to any Central Powers success. Its second combat phase allows the Germans to set up devastating concentric attacks against a selected portion of the Russian line. On turn one of the historic campaign scenario, the OberOst combat phase should enable the Central Powers player to recreate the victory at Tannenberg.

WEF is the result of over two years work. I believe it gives players insight into the titanic battles that helped bring three monarchies crashing down. I believe it will also open players' (and perhaps other designers') minds to the great gaming potential still to be tapped on the first eastern front. ♣

When Eagles Fight

Random Events

- A: The Czar Takes Command.** If event B has not yet been put into effect, and Warsaw and either Vilna or Brest-Litovsk are controlled by the Central Powers at this instant, the Czar declares himself to be in supreme command of the Russian armed forces. Immediately and permanently remove the Stavka counter from play. Add one (+1) to all revolution die rolls in all subsequent victory checks. Treat as "No Event" if event "B" is already in effect.
- B: The Czar Decrees Reforms.** Treat as "No Event" if event "A" is already in effect. If event "A" is not in effect, subtract one (-1) from all revolution die rolls during all subsequent victory checks.
- C: Allied Offensive on the Western Front.** Decrease this game turn's German replacements by half. Round remainders down (half of "3" is "1"). The "lost" steps are never recovered. This event may occur any number of times each game.
- D: Major Allied Offensive on the Western Front.** Decrease this game turn's German replacements by half (as in Event "C"). The Central Powers player also must withdraw two steps of German infantry. Roll one die; the withdrawn unit(s) return as reinforcements that number of game turns later. However, if 12 or more German steps are currently withdrawn for any other reason(s), including event "K," this withdrawal is not made (but the 50 percent replacement reduction still occurs). If it is after Game Turn 15, and no Verdun Offensive (event "K") has yet taken place, one German heavy artillery unit must also be removed with the withdrawn infantry (the artillery never returns). This event may occur any number of times each game.
- E. Italians Launch Isonzo Offensive** against the Austro-Hungarians. Treat this as "No Event" if rolled on Game Turn 5. If rolled on Game Turn 6 or after, reduce this turn's Austro-Hungarian replacements (using the procedures given for the Germans in Event "C"). This event may occur any number of times per game.
- F. Russians Suffer a Defeat in the Caucasus.** Treat this as "No Event" if rolled after event "G" has already gone into effect. If event "G" has not already been rolled, withdraw any one Russian infantry corps. This unit returns as part of the forces released if event "G" is rolled later. This event may only occur once per game; treat it as "No Event" if rolled again.
- G. Decisive Russian Victory in the Caucasus.** Next game turn, the Russian receives the 2TN and 1C Corps as reinforcements, plus any unit withdrawn to satisfy event "F." This event may only occur once per game; treat as "No Event" if rolled again.
- H. Allied Victory at Gallipoli.** Treat this as "No Event" if rolled prior to Game Turn 11. If rolled on Game Turn 11 or after, subtract two (-2) from the Russian Ammunition Shortage die roll each turn the Russian controls Odessa.
- I. Italy Remains Neutral** if this event is rolled on Game Turn 5, 6 or 7. If that happens, treat the rolling of events "E" and "J" as "No Event" for the rest of the game. If this event ("I") is rolled after Game Turn 7, treat it as "No Event."
- J. Austro-Hungarian Offensive in Italy.** Treat as "No Event" if rolled on Game Turns 5, 6 or 7. On Game Turn 8 and after, provided event "I" is not in effect and Lemberg is under Central Powers control and the Brusilov Offensive is not currently taking place, forfeit all this game turn's Austro-Hungarian replacements and withdraw any one corps of Austro-Hungarian infantry from the map. The withdrawn unit returns in reaction to the Brusilov Offensive as part of the B+1 group. This event may occur once in 1915 and once in 1916.
- K. Verdun.** If this event is rolled on Game Turns 12-15, the Central Powers player must withdraw six steps of German infantry (as in Event "C") and one heavy artillery unit this turn, and the same at the start of the next game turn. None of these withdrawals return. Any accumulated German replacement steps are permanently forfeit, and no German replacement steps may be accumulated for the remainder of the game (any not used the turn they are awarded are forfeit). If this event has not been rolled by the end of Game Turn 15's Random Event Phase, immediately place the "No Verdun" marker on the Turn Record Track. Any time after that when this event or event "C" is rolled, treat it as event "D" instead.
- L. Peace, Bread, Land!** The Bolsheviks have announced their revolutionary agenda. If three or more Russian and/or Russian-Poland cities are currently under Central Powers control, add one (+1) to the next revolution die roll. This event may only occur once between each victory check turn, otherwise treat it as "No Event."

COMMANDER'S CALL

by Ty Bomba

Big-Game News

This past summer I attended two conventions and helped put our newest ziplock, *Back to Iraq*, through thorough and unscheduled development after it passed the plebiscite. I had a great time at both conventions, and I'm satisfied *BtI* has been well received. The only trouble is, because of all that, somewhere in June, July and August I "lost" about three weeks time I'd scheduled for other things.

While I was trying to find a way to reschedule myself so none of our on-line projects would be left hanging, I got into a discussion with Chris P. about his recent "Chrisfire" column concerning magazine vs. boxed games. He said he'd been "crunching the numbers," and saw no reason why we couldn't put a "big box-type game" (meaning up to two full maps and four full countersheets) in *Command* once or twice each year, "if we really wanted to." Bah-doing! There it was.

Not only will this allow me to get caught up with my personal schedule again, it also overturns what I see as the last bad perceptual hangover from the First Golden Era: the strange, sad, artificial, SPI-created distinction between the two game publishing formats. That is, my two-map *Proud Monster: The Barbarossa Campaign*, will no longer be appearing as a ziplock; instead, it'll be our issue game in *Command* no. 27 (Mar/Apr '94).

Some of you noticed the unofficial announcement of this development last issue, when Ted Raicer's blurb for his two-map *The Great War in Europe* appeared as a magazine game proposal, but without much of any other fanfare. We went

that way because all this broke at the last minute in terms of getting anything about it into no. 24. Ted had sent me the *TGWiE* proposal as a ziplock idea, but when I phoned him to relate all this, he was delighted to make the switch. (So were some other would-be big-game designers whose blurbs you'll find in this issue's feedback section.)

Anyway, all the changes to the magazine-game schedule are noted in the box below. The two other ziplocks presently scheduled for publication next year, Ben Knight's *Seven Seas to Victory*, and Chris P's *Fateful Lightning*, will still be put out as originally scheduled.

Let me also repeat the proviso from issue no. 24 about L. Dean Webb's *Futurefight* quadrigame. When we get it and have put it through development, we'll slide it into the first available issue,

lest its "future history" content be overturned by actual developments.

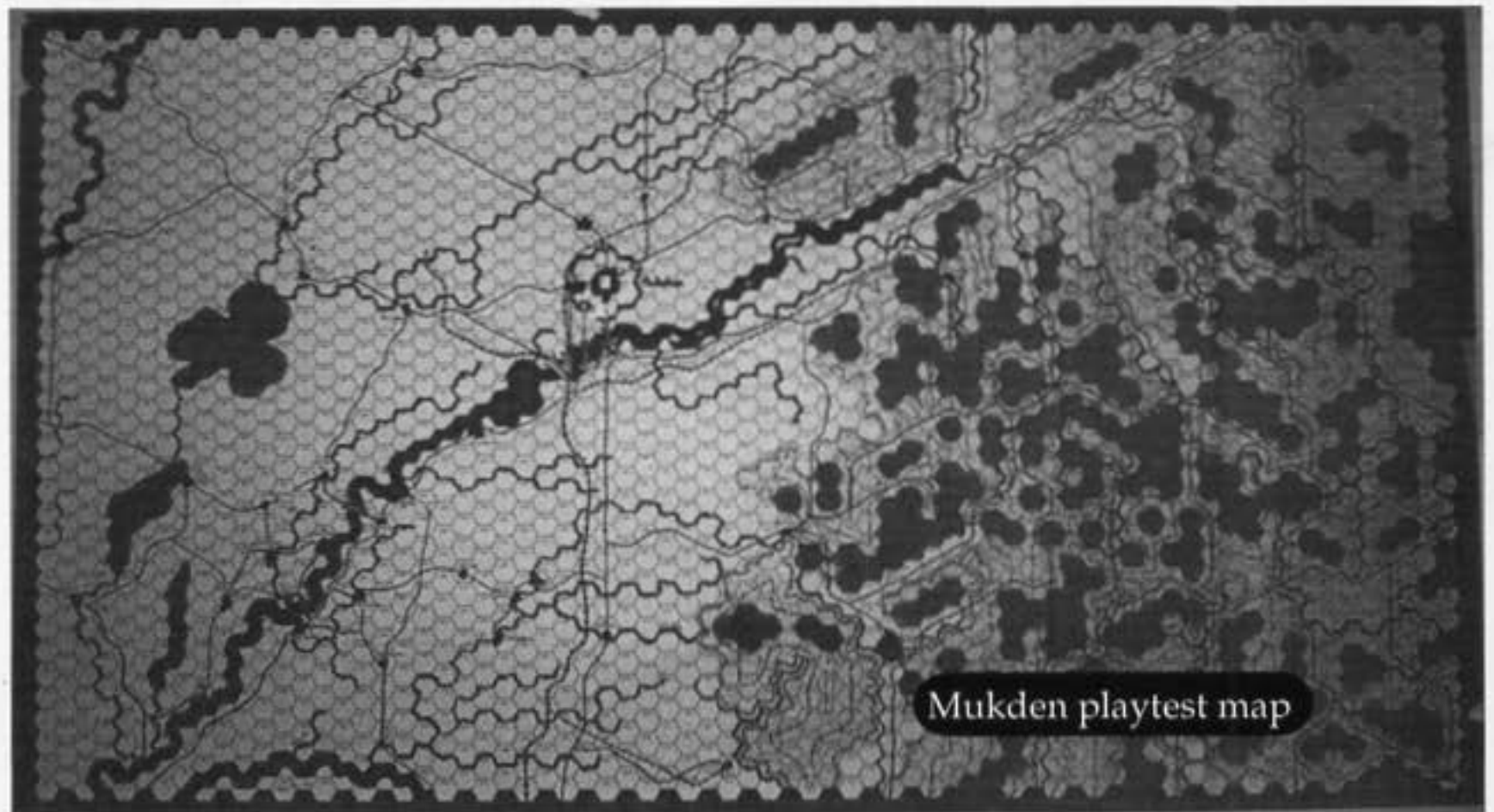
The "bad" news is the cover price for issues containing big games will have to be raised, probably to \$23 or \$24. So those of you who buy us off the rack in hobby stores, consider yourselves warned. Likewise, we're probably going to have to bump the subscription price a little bit, so some of you faithful subscribers might want to renew now, while you can still do it at the current rates. Forward.

Progress in Works Dept.

Mukden

by designer Ron Bell

This design is moving into the final stage before being turned in for development. The map covers about 100 miles of Manchuria around Mukden city. The ter-



Mukden playtest map

rain varies from marsh and rivers to hills and mountains, including a fortification system in the center of the board. The topography is shown in three levels that can generate combat modifiers depending on the height relationship between attacker and defender.

Players can attempt broad flanking movements over the open western terrain, take the direct approach through the center over one key bridge, and/or try to block the back door by winking the other

Magazine Schedule

Issue Number	Publication Date	Magazine Game Title	Ziplock Title
26	Jan/Feb '94	When Tigers Fight	—
27	Mar/Apr	Proud Monster	—
28	May/June	Like Lions They Fought	7 Seas to Victory
29	Jul/Aug	1914: Glory's End	—
30	Sep/Oct	Across the Potomac	Fateful Lightning
31	Nov/Dec	Budapest '45	—

guy out of the mountains. The system combines with the geography to allow for set piece attacks and defenses, as well as more open maneuver, and the subtlety of mountain warfare.

Units are brigades and regiments of infantry, artillery and cavalry. The cavalry can operate either mounted or dismounted, with advantages and disadvantages in both modes.

Though designed to be playable, the combat system readily allows for the portrayal of the brutality of early 20th century combat by using a sequence of pre-melee bombardment and defensive fire. First the attacking player allocates his artillery to either bombardment or direct fire support. Bombardment is resolved first, then the defenders get to fire at the units attacking them. This simulates the superiority of defense over offense, with machineguns and magazine-fed rifles being fired from trenches at exposed attacking units and inflicting heavy casualties before they can close for melee. Then any surviving attacking units, in conjunction with their artillery fire support, come to grips with the defending units.

All combat is resolved on a single, bloody CRT using a step-loss system wherein both sides usually take some hits. Attacks below 3:1 are expensive and usually futile, but even above those odds the expense remains and only the futility decreases. In my playtests so far, both armies are thoroughly depleted and exhausted by the end of the game, with whole divisions often decimated (just as occurred historically).

Special rules account for the Russians' lack of inter-army cooperation, the walls of Mukden city, rail movement, trenches, fortifications, and morale. If Russian morale drops below a certain level due to losses and retreats, that player must break off and withdraw his units from the map within a certain number of turns. That can work against the Japanese, however, since final victory is determined by possession of Mukden and eliminating a certain number of enemy steps. So if the Russians withdraw before the Japanese have been able to inflict the death blow, the game ends in a draw.

Attila, Scourge o' God

by designer Roger Sandell

In our latest playtest, the Huns crossed the Rhine right into a problem: the frontier city of Augusta Trevernum was defended by five units of *limitanei* (local militia that appear by die roll when the Huns first enter their territory, like rebel units in *IAS*). That made an assault a

risky proposition, so Attila left behind Arderic, King of the Gepids, with the Huns' Germanic allies and the wagon and siege trains, to reduce the garrison by attrition. Then Attila, accompanied by his eldest son Dengish, struck out across Gaul.

Aetius moved the main Roman army to southern Gaul, hoping to persuade the Goths there to join him. However, the actual result was a series of unlucky die rolls that kept the Goths neutral all through the campaign. While Aetius was tied down in those negotiations, his second-in-command, Avitus, took part of the army, moved north and had better luck there persuading the Burgundians to throw in with Rome. He then collided with Dengish, who had just got the Alans and Franks to join with his Huns, and defeated him (due to the lack of Germanic infantry still busy back at the siege).

Dengish attempted to recoup by crossing the Alps into Italy, but suffered badly from attrition. Once through the passes, his depleted force was again routed by the *limitanei* there. By this point the winter of 451-452 was fast approaching, and Attila (who'd been in the north besieging Colonia Agrippina) decided to leave Gaul and spend the cold months on the Danubian plains, enabling him to raise extra forces for the new year.

The 452 campaign opened with the Hunnish invasion of Italy. Though Aetius inflicted a defeat on them, he had to march the Roman army into an area devastated by the Huns, losing heavily to attrition. Attila survived this defeat and continued south, devastating the country behind him to deter pursuit.

With only a small force standing between Attila and Rome, the Pope went out to meet him and rolled on the "Wrath o' God Table." (1-2: Attila is overawed and withdraws from Italy; 3-4: Attila withdraws in exchange for tribute/VPs; 5-6: Attila is enraged and stabs the Pope.) Attila gained his tribute, thus ending the game in a draw.

On the basis of this playtest, it seems the system hangs together. The next stage is to check on play balance and add random events. Among the goodies to be integrated are: holy relics, plague, St. Genevieve, Vandal raids, tribal defections, and Byzantine intervention.

Feedback Loop Results From Issue No. 23

The voting in issue no. 23 generated two feedback records. First, one of the two games that passed the vote, *The Battle of Yarmuk*, did so with a clean and lean

6.20 — that's the first time for that. Second, L. Dean Webb's *Army* proposal garnered only a 2.69, which I believe is the lowest score to date. (We wuz only kiddin' folks.) But L. Dean shouldn't feel too bad about that, since his *Blood on the Snow: The Cherkassy Cauldron -1944*, was the other title pulling a passing vote at 6.27.

The also-rans were: *Yomping: The Battle for East Falkland* - 4.76; *Jacobite Battles: The Boyne, 1690 & Culloden Moor, 1746* - 6.09; *Two Civil War Naval Battles: Hampton Roads & Mobile Bay* - 5.49; *The Reason Why* - 5.47; *The Forgotten Front: The Indian Territories' Civil War* - 4.43; *Borderers: Battles of the Anglo-Scottish Wars* - 5.91; *King John* - 5.15; *Two Battles in Vietnam: First Clash & Hue* - 4.80; *Landing Zone X-Ray* - 4.91; *Infantry Attacks: The Adventures of Young Erwin Rommel* - 6.02; *Race For Power: The Fight for Dnepropetrovsk, 1941* - 5.90; and *Circle of Panzers: The Fight for Kiev, 1941* - 5.82.

Second thoughts on issue no. 21's *Blood & Iron* game came in thusly (first survey/second thoughts): Overall-6.86/6.87 (!); Map-6.65/7.15 (!); Counters-6.68/6.93 (!); Rules-6.49/7.03 (!). Estimated complexity was 4.79. It was played to completion 2.30 times, taking an average of 3.93 hours. Twenty percent had no opinion about play balance, 7% claimed the Prussians are heavily favored, 49% say they're slightly favored, 15% say the game's balanced, 5% maintain the Austrians are slightly favored, and 4% claiming they're the big favorites. Finally, 94% said, yes, *B&I* was a good choice for a magazine game.

Those who surveyed our recent ziplock release, *Smithereens: The End of World War II in Europe*, summarized their feelings this way: Overall-7.58; Map-7.49; Counters-7.19; Rules-7.49; Complexity-5.33. The voters played it 2.64 times, taking 6.16 hours to finish each time. Ten percent would offer no opinion about the historical scenario's play balance; 3% claimed the Germans are heavily favored to win it; 15% claimed that side is slightly favored; 9% assert the scenario is balanced; 33% maintain the Alliance is slightly favored; and the last 30% believe that side is heavily favored. The same scores for the WWII scenario were: 52% no opinion; 7% claiming the Soviets are heavily favored; 10% saying the Reds are slight favorites; 16% judging the scenario a balanced contest; 15% saying the Allies are slightly favored, and precisely no one claiming the Westerners are heavily favored. Ninety-six percent agreed that *Smithereens* was a good choice for the ziplock line, and 97% felt they'd gotten their money's worth by buying it.

You rated the hobby edition of issue no. 23 as follows: *Shogun Triumphant* game overall-6.31; Map-6.88; Counters-6.90; Rules-6.83; D-Elim-6.60; 1918 variant-6.95; Commander's Call-6.61; Chrisfire-6.43; No. 23 hobby edition overall-6.76. Twenty-five percent thought issue no. 23 was better than issue no. 22; 22% thought the opposite, leaving 48% who believed the two issues to be of about equal worth, and 5% who expressed no opinion.

The Feedback Loop

Please use the combined newsstand/hobby edition feedback card bound into the magazine to vote on the following new game proposals and survey questions. Vote by placing one whole number (only!) on the corresponding spaces on the postcard. If it's a rating question, "0" means "Don't publish this game under any circumstances;" or "This article was so uninteresting I didn't even read it!" From there, each higher number indicates a slightly more favorable opinion, until you get to "9," which means: "This game idea is top-notch; please publish this game as soon as possible!" Or: "This article couldn't have been any better!" In yes/no questions, "1" means "yes," and "2" means no," and "0" means "no opinion," or "not applicable."

Next issue we'll present the feedback results from issue no. 24. To be counted in the voting on this issue, your card must reach us by 1 January.

New Game Proposals

1. The Bulge. You know the topic; you've seen it in a dozen other games. Yet this is the one "done right," with XTR's world famous high quality graphics and the well-liked *Berlin '45* game system tailored to the peculiar circumstances surrounding the US Army's greatest land battle.

Bulge stresses a clean, no-markers playing environment. The 960 half-inch, NATO-style units represent infantry regiments, battalions, armored *Kampfgruppen* and Task Forces. A typical panzer division, for instance, will consist of three KGs and a recon battalion, but sufficient breakdown counters will be available to allow players to task-organize their mobile forces just about anyway they want. Other rules will cover aerial resupply, airpower, roadblocks, bridges, tank vs. tank combat, traffic control, Skorzeny's commandos, etc.

Bulge will use two full, small-hex maps to cover the area from Aachen in the north to Luxembourg City in the south. Victory conditions will depend on the specific plan selected by the German at the start of play — he needn't necessarily select the historic, go-for-broke and take Antwerp plan. Yes, what-if scenarios will be included, allowing the German, among other things, to attempt to pinch off the Aachen salient. There will also be several mini-scenarios: The Road to Bastogne; St. Vith and Elsenborn Ridge; and The Destruction of 2nd Panzer Division.

Bulge will be of intermediate complexity (about 5.50) and will appear in the magazine as a "mini-monster," by John "Berlin '45" Desch.

2. End of Empire will be a magazine "mini-monster" with scenarios covering both the French and Indian War and the American Revolution. One large-hex mapsheet will stretch from Cape Breton Island to Detroit; the second will extend south to Florida. Distinctions will be made between settled areas, where Euro-style warfare reigns, and the wilderness, where the Indians, Rangers, and riflemen are supreme.

EoE will also have smaller scenarios playable in an evening. These will include: Amherst's 1759-60 assault on Canada, Howe's New York/New Jersey campaign of 1776, the 1777 campaign that climaxed at Saratoga, and Greene's southern campaign.

The 528 large-size, backprinted, counters will make up a colorful counter mix at the regimental level, distinguishing between British, Provincials and Tories, French, Continentals, American militia, and both Iroquois and Algonquin Indians.

Leaders will be the key to the game system. Some, like Gens. Wolfe and Greene, have initiative sufficient to complete any operation they attempt. Others, like Gens. Loudon and Gage, are so lethargic they hardly move. Generals, of course, will also have tactical ratings to modify conventional combat.

Naval conflict was critical in both these wars, and an area movement sub-system will be used to simulate it here. The uncertainty of which fleet arrives first in each year will prove critical in both players' planning. Other features to be covered include: Acadians, artillery, cavalry, fortifications, sieges, bateaux, supply, attrition, and the one year enlistments of Provincial and American militia units. The overall system will be of low-to-intermediate complexity (about 5.0). For the magazine, by William "Bunker Hill" Marsh.

3. Delivered From Evil. Do you play *Axis & Allies*, but are secretly embarrassed by the plastic pieces and play money? Is *World In Flames* too much for your two afternoons of gaming time each month? *DfE*, a systemic offshoot of *Tomorrow the World*, is an army/corps level game of WWII, using point-to-point movement on a politically incorrect Mercator projection map of the entire globe.

The OB is similar to that of *World in Flames*, but will add step reduction and supply units. Turns will be seasonal/monthly. Sea and air operations are handled using a *TTW*-style area movement and sweep/interception system. Ground operations include both MAs and PAs. Combat resolution utilizes odds ratios, with step losses or retreats modified by the size of the attacking and defending forces. Combat "modes," as in *Days of Decision*, are used for attack and defense.

Hardware includes two maps (including a European sub-map to reduce monster stacks on the main map), and 800 half-inch units. The usual outré counters and markers will also be present. For the magazine, with a complexity of about 5.0, by Nelson B. Isada.

4. No Retreat, No Surrender! Attention panzer pushers and shock army commanders. It's *Blitz '41*, *Sunrise of Victory*, and the eastern portion of *End of the Iron Dream* all rolled into one. The war in Russia and eastern Europe on a single, large-hex map at 50 miles per hex, from Chelyabinsk to Berlin, Leningrad to Baku, with oil fields, major rivers, the Kazakhstan Desert, and Peenemunde. Game turns equal one-half month. The 600 half-inch counters will be corps/army, each containing between one and four strength steps. Other units will include air assets, engineer "armies," concealment status, fortified areas, army group HQs, shock fronts, NKVD, siege artillery, flotilla and naval modifiers, supply status (S+2 down to S-4), supply bases, trucks, factories, capital cities. Separate units for German armor, mech and motorized divisions. There will be a variable turn structure for the German player with: mechanized movement phase, mech admin phase, leg movement phase, leg movement admin phase, mech combat, leg and mech combat. The Soviets have a more rigid turn structure.

Mobile assaults can take place during mech movement. Reserve movement (again, with MAs) can occur between phases. ZOCs stop or inhibit admin moves, alter reserve modes and block supply routes. Mech ZOCs can force attacks between mech units. Armor is doubled when attacking from and into clear terrain in good weather. No nukes, flying saucers, death rays or Godzilla. Complexity about 6, for the ziplock line, by Nelson B. Isada.

5. Glory's Hill: The Battle of Rio. On 20 January 1567, Portuguese soldiers and their Indian allies were ready to storm the French redoubt at Uruçumin. At stake was the fate of *France austral*. The Portuguese charged uphill and engaged the French all during the day. All manner of weapons were used, from primitive clubs and javelins, to swords, flails, bows, crossbows, arquebuses and muskets.

In the end the French were routed and forced to retreat inland. But the military commander of the Portuguese colony was grievously wounded and died a few days later. The battle site became known as "Glory's Hill." The French presence in Guanabara Bay had lasted 12 years, and had required the Portuguese to respond, first, by sending an expedition, and then actually founding a rival city at the base of a "sugar loaf-like mountain." The two rival settlements coexisted for two years before the French were defeated. The Portuguese city grew until one day Rio de Janeiro had become the capital of the entire colony and one of the most famous cities in the world.

GH is a two-player game of the epic fight in what nowadays is the neighborhood of Flamengo in Rio. The counters represent 10-20 men similarly armed and with the same morale. Special rules will cover missile fire, close combat, morale, ferocity, leaders, priests, heroes, and fortified positions. The Europeans were well-armed and protected by body armor, but the Indians attacked in mob fashion.

The game will take about four hours to complete and will have a complexity of 8 (!), with a system adaptable to other colonial/renaissance situations. Many variants are possible, including what-ifs. The game will have one full-size, large-hex map, showing the area around Guanabara Bay as it looked 400 years ago. There will be 192 units, 5/8" size, with pictographic symbols. For the magazine, by Paulo Vicente.

6. Death Was Everywhere: The Battle of Westport, Missouri, 23 October 1864. Despite popular myth about Pea Ridge, this was actually the largest battle of the American Civil War west of the Mississippi. Over 29,000 took the field that day, and it was one of the largest cavalry actions of the entire war.

The battle was remarkable in its scope and individual actions. Confederate Gen. Marmaduke fought a house-to-house battle in Independence, the Kansas City Militia defended in trenches, on the plains men on horseback charged and counter-charged, and individual officers sought each other and fought knightly duels. By the end of the day, the remnants of the defeated Confederates retreated with their large wagon train to the south, and eventual decimation at Mine Creek, Kansas.

DWE will use a full, large-hex map and 216 5/8" counters, for the magazine. It will use a modified low complexity *Antietam* game system, but the scale will be regiment/battery and leaders will be added. Turns will be hourly, and each hex will represent about 400 yards. Special rules will cover long-range artillery, leadership, dueling, cavalry charges, abatis, engineers, the wagon train, Shelby's "Iron Brigade," and variable entry times for Federal forces.

Due to the large number of mounted units, the action on the map will be extremely fluid. Unlike most games, each regiment will be evaluated in its movement ability according to the type and condition of its mounts. Step losses will reflect the cohesion of the unit rather than actual personnel losses, so units will range from high-powered two-steppers to

low-powered four-steppers. Terrain will also play an important part, including Missouri River fords, towns, roads and fences.

The action will be intense and solitaire play easy. In two-player contests, both sides will be faced with offensive and defensive options. All of the scenarios will be playable in an evening. By Dennis Bishop.

7. Chattanooga: Driving to the Heart of the Confederacy. Chattanooga is located on the attack route from the north through Tennessee to Atlanta, and hence to the heart of the South. The securing of the city was vital to complete the Union victory in the west, and vital for the march on Atlanta — an essential Union objective. At the battle for Chattanooga, the Union was led by both its best generals, Sherman and Grant. Opposing them was the Rebel victor of Chickamauga, Braxton Bragg. The Union forces advanced on the first three days of the battle (23-25 November, 1863) to Orchard Knob in the Confederate center. The second day saw action on the Rebel right as Sherman pushed across the Tennessee River, and other Union forces under Hooker launched a dramatic assault on Lookout Mountain — “the battle above the clouds.” On the final day, the Union made a frontal assault against Bragg’s dug-in men on Missionary Ridge. The third day was a wild and confusing struggle; but when it was over the Union forces had achieved victory at Chattanooga, and the road to Atlanta was open.

The game will have one full, large-hex map covering the area from Lookout Mountain to Missionary Ridge, including the city of Chattanooga on the Tennessee River. There will be 352 backprinted 5/8” counters, and the game will be of low complexity (about 4.5) at the grand tactical level for the magazine. Rules will cover command and control, morale, artillery bombardment, charges, fog of war, and special Lookout Mountain terrain rules. Victory will be based on the capture of key hexes and loss of strength points. By Adrian McGrath.

8. The Chancellorsville Campaign: Lee and Jackson Triumphant. “Fighting Joe” Hooker led a colossal Union army of 130,000 against Lee’s 60,000 in the spring of 1863. Hooker planned to trap Lee near Fredericksburg, Virginia, and destroy the Army of Northern Virginia. But Lee divided his forces twice and made a spectacular flanking move through thick forest with a portion of them. The Union troops were caught by surprise, and the Confederates won a victory instead of suffering a terrible defeat.

The full, large-hex map will show the area from Fredericksburg to the Wilderness, and will cover from 1-4 May 1863. There will be 352 backprinted 5/8” counters, and the game will be of low complexity (about 4.5). Rules will cover command and leadership, fog of war, the Wilderness, morale, and initiative (with the Rebels possibly moving twice in a row). Victory will be based on the capture of key hexes and the loss of strength points. Solitaire play will be possible, though the game is primarily intended for two-player competition. For the magazine, by Adrian McGrath.

9. Battles for New Orleans, 1815 and 1862. In the 19th century two major battles were fought over the southern port city of New Orleans, which was correctly seen both by the Americans and British as the key to control of the Mississippi River valley. In 1815, the British, under Pakenham with 8,000 regulars, made a frontal assault against the irregular forces of Andrew Jackson that numbered about 5,000. The difficult terrain forced the British to advance up the levees, and at the Chalmette plantation they were decisively beaten. During the War Between the States, Union forces under Adm. Farragut attacked by sea rather than on land. With the advantage of steam-driven warships, the Union forced the river, running gunboats past Forts Jackson and St. Philip. Despite heavy fire from the shore, the Northern vessels took the city.

BFNO will contain two scenarios, each utilizing its own half mapsheet, and the counter mix will include 150 backprinted 5/8” counters. The rules will present two different low-complexity systems that can be played solitaire or two-player. Rules for the 1815 scenario will include: artillery bombardment, leaders, morale, and fog of war. The 1862 rules will deal with: ship movement, ship and shore bombardment, and fog of war. The 1815 map will cover the battlefield at Chalmette. The 1862 map will show the river and the nearby shoreline area south of the city. To win in 1815, the British must force the Americans to retreat from their positions by breaking their morale, and in the 1862 scenario the Union ships must pass through the Confederate blockade, thus capturing New Orleans over water. For the magazine, by New Orleans native Adrian McGrath.

10. Petsamo-Kirkenes: War in the Arctic. The agreement taking Finland out of WWII left the German *20th Mountain Army* still operating in the north of that country and in a precarious position. There the Germans had constructed strong defensive lines to protect their mining of nickel in the area southwest of Petsamo, and iron ore around Kirkenes. These positions also shielded the *Luftwaffe* and *Kriegsmarine* facilities from which the Germans mounted attacks against Allied shipping going to Murmansk.

The German forces in this area consisted of the *2nd* and *6th Mountain Divisions*, two brigades of regular infantry in *Gruppe Van der Hoop*, and the *210th Infantry Division*, which had five fortress battalions attached. These forces averaged 92% of their authorized strengths, and totaled some 57,000 troops. The defense line consisted of company-size strongpoints, well supported by mortars and artillery.

The Soviet assault force numbered about 95,000 men and was organized into three rifle corps totaling seven rifle divisions, along with two light rifle corps, including two naval rifle brigades. The attackers had superiority in mortars and cannon, and also about 100 tanks and self-propelled guns (the Germans had none). The Reds also enjoyed a 2:1 air superiority, but foul weather during their initial attack prevented them from fully exploiting this advantage. The operation included two separate amphibious landings on the coast behind the German flank.

The scope of the game will be operational and will cover this classic arctic warfare operation that still serves as a model for this type of combat. The game will include one full-size, large-hex map, 200 half-inch counters, three historical mini-scenarios, one campaign scenario, and one what-if scenario.

Units on both sides will be represented as battalions, regiments and brigades. Air and sea power will be expressed abstractly as support points. Rules will cover all aspects of arctic warfare, and Soviet success will depend on that player’s ability to shunt supply and efficiently use his engineer battalions. Victory will be judged on occupation of key hexes within a certain time frame, while the elimination of enemy units will also earn points. There will be no replacements or reinforcements for either side. Other features include: hidden movement, strongpoints, amphibious landings, deep reconnaissance, bridges, road building, and strategic withdrawals. Of intermediate complexity (about 5.5), for the magazine, by Peter “Czechoslovakia ‘38” Gryner.

11. Leipzig: Twilight of the Empire. It is mid-October 1813 and for the past several days the Allies have been pressing Napoleon in an ever-tightening noose towards the city of Leipzig. While Napoleon is aware of this, he is not aware of the implications. He will be forced into the largest and fiercest battle of the Napoleonic wars.

LTotE will include a basic game which will be expanded by some optional rules, and some alternate what-if scenarios for a twist. The full game will run around 64 game turns (representing 45 minutes each),

with the daily scenarios of 12 to 16 turns. The battlefield is covered by two full-size, large hex maps at 300 yards/hex. Movement rates will run 4-6 for infantry, 4-8 for artillery, and 9-14 for cavalry.

The 700 5/8” counters represent brigades for the Allies and French and regiments for the Prussian, with some battalions, companies, batteries, leaders and some markers. Each Strength Point represents 250 men for infantry and cavalry, and a variable number of guns (based on size) for the artillery. Each counter will have values for its organization, attack and defense strengths, movement allowance, stacking, and morale values, and a pictograph complete with colorful period uniforms. Unit types covered will be infantry, guards infantry, grenadiers, jagers, landwehr, light infantry, light cavalry, guard cavalry, landwehr cavalry, line artillery, horse artillery, fast foot artillery, and guard artillery. Where special units exist within brigades, these units will give their respective brigades a morale boost. Markers include, out of command, disordered, rout and countercharge.

The game will be based upon Vance Von Borries *Vittoria* game system. The basic game uses a sequential game turn; the advanced game a Corps Activation or Initiative system. The Corps Activation system will give Napoleon, Alexander, Schwarzenberg, Blucher, and some others a Corps Activation Allowance. Once the corps has been activated, it will continue to be move and fight until acted upon by an outside force. The Initiative system takes the Corps Activation system one further, where, if you attempt to activate a corps and fail, the opposing player gains the initiative and attempts to activate a corps of his own. Players also will choose when to conduct combat instead of activating a corps.

For the magazine, by Vance Von Borries and Gene “Kadesh” Dickens.

Second Thoughts Survey

Please re-evaluate the game from issue no. 23.

12. *Sekigahara* game overall
13. Map
14. Counters
15. Rules clarity and completeness
16. Estimate the game’s complexity using the 1 (simple) to 9 (hyper-complex) scale.
17. About how many times have you played *Sekigahara* to completion? (0-never, 1-once, 2, 3, etc., 9-nine or more times.)
18. About how long does it take to play *Sekigahara* to completion? (0-haven’t finished one yet; 1-about an hour; 2-about two hours, etc.)
19. Which side is favored to win more often when both sides are commanded by opponents with equal skill levels?
 0. No opinion, or can’t say.
 1. The Westerners are heavily favored to win.
 2. The Westerners are slightly favored to win.
 3. The game is pretty evenly matched.
 4. The Easterners are slightly favored to win.
 5. The Easterners are heavily favored to win.
20. Was *Sekigahara* a good choice for a magazine game? (1-yes/2-no)

Back To Iraq Survey

If you're familiar with our recent ziplock release, *Back to Iraq: New Wars in the Gulf*, please help us evaluate it by answering the questions below. (0=I'm not familiar with this game.)

21. *Back to Iraq* overall
22. Map
23. Counters
24. Rules clarity and completeness
25. Estimate the game's complexity.
26. About how many times have you played *Back to Iraq* to completion?
27. About how long does it take to play Scenario I to completion?
28. Scenario II?
29. Scenario III?
30. Which is your favorite scenario? (1=I, 2=II, 3=III)
31. Which side is favored to win more often in Scenario I when both sides are commanded by opponents with equal skill levels?
 0. No opinion, or can't say.
 1. The Aggressor side is heavily favored to win.
 2. The Aggressor side is slightly favored to win.
 3. The scenario is pretty evenly matched.
 4. The Coalition side is slightly favored to win.
 5. The Coalition side is heavily favored to win.
32. Same question for Scenario II.
33. Same question for Scenario III.
34. Was *Back to Iraq* a good choice for a ziplock game? (1=yes/2=no)
35. Do you feel you got your money's worth in buying *Back to Iraq*? (1=yes/2=no)
36. If you had it to do over again, would you still have bought *Back to Iraq*? (1=yes/2=no)

This Issue's Hobby Edition

Rate the game and other features of hobby edition no. 25.

37. *When Eagles Fight* game overall
38. Map
39. Counters
40. Rules clarity and completeness
41. D-Elm
42. Commander's Call
43. Chrisfire
44. *Smithereens* After Action Report
45. *Tet '68* After Action Report
46. *Victory in Normandy* Gambits
47. *Back to Iraq* variant counters
48. *Command* no. 25 hobby edition overall
49. Was this issue of the hobby edition better than the previous one? (0=no opinion; 1=yes; 2=no; 3=the two were of about equal worth.)

FROZEN CHOSIN

The Chosin Reservoir Campaign, November - December 1950

Communist Chinese forces enter the Korean War with a massive attack on America's *10th Corps* around Chosin Reservoir in Northern Korea. After days of desperate combat in the frozen hills, and heavy casualties that included an entire regimental combat team, American forces "advance" south away from the reservoir and China. Instead of home for Christmas, UN forces will be bogged down in Korea for two and a half more years.

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UNIVERSITY FOR MILITARY STUDIES

The American Military University, recently founded in the Commonwealth of Virginia, will begin its third semester of operations in September 1993. The University's purpose is to provide graduate education in military studies, using the concept of "distance learning". Distance learning involves direct communication between student and professor through correspondence, fax, telephone, or computer modem. The University offers a program leading to a Master of Arts degree in Military Studies. Its faculty is composed of professional educators, military historians, authors and retired military leaders who have devoted their lives to the research, study, and teaching of the military arts and sciences. The goal is for students to establish a one-on-one relationship with these professors and to have the benefit of their combined experience and guidance while conducting self-study and original research. Students may specialize in one of four areas of study - Land Warfare, Naval Warfare, Air Warfare, or Defense Management. AMU's catalog contains over 80 courses, with 30-40 courses available in each semester. This selection is one of the most extensive arrays of military oriented courses available anywhere in the country. Further information, a catalog, and an application for admission may be obtained by sending \$5.00 to the American Military University, 9285 Corporate Circle, Manassas, VA 22110. (703) 330-5398.

Notice

For approximately the last year I have been acting as operations manager and contact point for FGA while its owner Terry Shrum is caring for his ailing mother. Although at one time it was planned that I would purchase FGA, this transaction never took place. Terry Shrum is now, and always has been the sole proprietor of FGA.

Due to increasing responsibilities in the game publishing business as well as my continuing business selling collectible wargames, I am unable to continue as operations manager for FGA. I will cease my duties in this position as of November 1, 1993.

My relationship with FGA and Terry Shrum has been very successful; I hope I have helped both Terry and his customers during a difficult time. I wish him luck in his future endeavors.

Eugene Moyers
C&M Hobbies

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D-elim'd

Victory in Normandy

Gambits

by Ben Knight

The following are my preferred setup and opening moves in ViN. I'll start with the Germans because their setup is variable and they move first.

German Setup

Unit	Hex
3 Para	1406
IIPC Art	1807
77 Inf	2409
243 Inf	2703
91 Aldg	2704
709 Inf	2803
6/30	2805
352 Inf	2905
716 Inf	3006
21 Pz	3207
711 Inf	3306
12SS Pz	3308
LE Pz	3514
346 Inf	3606
ISS Art	3911

Garrison and 17SS units set up as required. The 3rd Parachute and IIPC Artillery are waiting for D+5 reinforcements to appear. They will not move until then.

German D+1

The German player has 3 CPs, which he uses as follows:

1. 12SS Panzer moves to Caen.
2. Lehr Panzer moves to 3309.
3. ISS Artillery moves to 3309 to join Lehr.

This setup and opening move puts the best unit in Caen and a strong unit on the south side of the Orne at 3207—a critical hex.

In one way, 3207 is more critical than Caen itself because if you lose 3207 the Allied player is close to breaking out into the open "tank country" Montgomery was so keen about. (Hex 3207 is the site of Operation Goodwood.)

German D+2

Again, the German player will make three moves, but these depend on the Allied player's actions on D+1.

If the Allied player is threatening Carentan, then:

1. 77th Infantry moves to 2808.
2. Lehr and ISS move to 2808 to join 77th.
3. 17SS moves to 2916 from off map.

From this position, if the frontline is still quiet on D+3, Lehr will move to Caen, ISS will move to Carentan, and 77th will move to 2906, while 17SS and 346th Infantry will move toward the front.

If the Allied player is threatening Caen, or, conversely, if he has failed to reinforce Juno Beach on D+1, then:

1. 77th Infantry moves to 2808.
2. Lehr moves to 3207 while ISS moves to 2808.
3. 21st Panzer moves to Caen.

This reinforces Caen immediately if the city is threatened; or it places two panzer divisions in Caen to threaten Juno if the 3rd Canadian division is the only unit on that beach. The latter case will force the Allied player to reinforce Juno on D+2 rather than launch any attack of his own. If he fails to reinforce Juno, the two panzer divisions in Caen can attack the beach on D+3 and inflict, after defensive fire, approximately 1.7 hits, which is a good shot at capturing the beach.

Allied Gambit

Against an experienced German player, I think the Allies need to launch an attack *before* D+4. If they wait until D+4 or later, a good German player will have reinforced the center of his line (Carentan to Caen inclusive), making progress more difficult.

The Allied player should decide early on which pair of Norman ports he wants first and spend most of his effort getting them. I suggest going after Carentan first. Not only is it weakly defended at the start, it is a great centerpiece: after Carentan, the Allies can move against Caen OR Cherbourg OR—in wild games—Granville. Thus the German player will need to defend everywhere (an impossible task). I recall one game where the Allies had Carentan and were moving on Cherbourg against panzer (!) resistance. The Allies suddenly shifted fronts and battered their way into Caen. The German player had slimmed his Caen

defenses to make the Cherbourg sector tougher.

Allied D+1

Given Carentan as the first objective, the Allied player has two choices on D+1: attack Carentan immediately from Utah, or reinforce Utah and Juno and attack on D+2:

To attack immediately has an advantage and disadvantage. The disadvantage is that there is a 51% chance the attacking troops will entirely miss the German 6/30 Paratroops, and you will have wasted a whole day. The advantage is that if you push the Germans out of Carentan now, or better yet eliminate the 6/30, you will probably capture an adjacent hex on D+2 because in most cases the German player won't be able to plug the gap in his line until D+3 at the earliest.

So, how lucky do you feel? It's hard to roll "1s" (which is what the airborne divisions need to hit in *bocage*), but not impossible. Around here we still think the 101 Airborne kicks butt because in one attack it rolled *two* 1s when everybody else missed, allowing the Allies in that particular game to cut across the Cotentin Peninsula.

Even so, I favor a conservative approach as follows: On D+1, reinforce Utah with an artillery unit and Juno with an infantry division. This allows your corps at Utah to attack Carentan on D+2 while Juno is protected from any German threat on D+3. There's still a 30 percent chance of missing the 6/30 Paratroops in such an attack. If you miss, reinforce the beachhead and attack a weak spot as soon as possible. You need to gain a hex somewhere to stretch the German line.

Smithereens

An After Action Report

German: Milton Duncan

Soviet: Sandy Elliot

Western Allies: Langley Kitchings

German Strategy

The core of my eastern front strategy involves positioning strong German armored forces in Berlin and Prague using

strategic movement, and fighting a pinning action around Vienna and the oil wells at Nagykanizsa to delay the shifting of Soviet forces toward Prague and Berlin. Some of the reserve armor is placed in Vienna and Nagykanizsa. Konigsberg and Danzig are garrisoned with three steps of infantry. Courland forces will be withdrawn as permitted to form a northern redoubt in Kiel and Hamburg. Surviving armor will be moved to Berlin.

In the west, I deploy most of my reserve forces to prevent an easy conquest of the Ruhr and to position forces to retreat into those hexes later on. I'm not planning any offensives in the west, since concentrating my armor there usually garners only a single victory point and invites an Allied big solution — such as an encirclement of those units that von Rundstedt worried about during the actual Ardennes Offensive. *[Designer's Note: I believe the German should attack in the Ardennes on turn one. That's not because taking a city point is in itself worth it, but because a full-blooded Ardennes Offensive means the Allied player won't get across the Rhine anywhere until turn five or six, rather than turn three or four.]*

The Italian front has two reserve units placed on the eastern section of the line to strengthen it and prevent the British from tearing through too soon. In Yugoslavia, my Croat forces will screen the Partisan units and allow the German forces to retreat to Zagreb.

I hope the late game will see either the Soviet or Allied player be goaded into a panic and waste time repositioning forces against divergent objectives (the often used but only occasionally successful "Cocker Spaniel Strategy"). With a little luck, I hope to hold either Prague or Vienna, Kiel, Hamburg, one hex of the Ruhr, the Alpine Redoubt and Zagreb. That would give me eight points and a victory.

Soviet Strategy

I plan to split my Maskirovka reserve and use strong armor to mobile assault the Courland pocket and take the ports there on turn two, and thereafter reduce the pocket's armor. I will use the rest of my armor to take Nagykanizsa and destroy the German armor north of Budapest and then take Vienna. It's very important to eliminate or weaken as much German armor early to prevent the assembly of strong forces in Berlin and Prague. I've also positioned armor to cut through the German line in East Prussia and take Konigsberg and Danzig early. The armored forces on the southern Vistula will

take Cracow, the industrial basin and Breslau during turns two and three. The armor will then be positioned to attack toward Berlin and encircle it to precipitate the collapse of the German economy.

Western Allied Strategy

Breaking the German line in Italy and getting into Austria and southern Germany are top priorities to keep that area from becoming a redoubt. In France I plan to destroy the Colmar pocket, deal with any German offensives, and attack targets of opportunity that will allow three or more Allied corps to be concentrated against a hex. I would like to get Allied corps into southern Germany to occupy Munich and Salzburg, so that when the economy does collapse no German forces can get to the redoubt area. My ultimate goal is to encircle the Ruhr early and then storm it before those big stacks of German forces I see on the mapboard can retreat and make my life difficult.

Game Turn 1

German. The Wehrmacht stays put — no offensives. The Grand Alliance will have to come and get me.

Game Turn 2

Soviet. The mobile assault in Courland grinds slowly, and the western most port falls. I press on with my depleted armor and secure the other port with a fresh unit. The German forces, particularly their armor, are out of supply except the coastal units. I hope to see them all eliminated shortly.

My stab at Konigsberg opens with an MA that allows infantry to slip through to prepare to attack that city's garrison. MA's on the southern Vistula rip up the German line. Armor moves toward Cracow. I leave the German northern line alone to conserve forces for next turn. North of Budapest I MA a weak stack of German armor and break through. Fresh armor moves through the hole adjacent to Vienna. Around Nagykanizsa, I MA south of the oil wells and encircle for a PA. The Yugoslavs move to attack two German units.

The PAs from Courland south are successful. Konigsberg falls. Cracow is occupied. The low odds attack against Vienna nets a step loss for both sides. The concentric PA against Nagykanizsa depletes, but does not destroy, the German units there. My forces are positioned just as I want them on the southern Vistula, but Vienna and Courland are going to be more drawn out affairs than I wanted them to be.

Western Allies. The British attack in Italy

and weaken one of the German forts there. In France I use the reinforcement corps to attack with the Free French to destroy the Colmar pocket. I make four other attacks that net a total of nine German step losses for four of my own. The northern part of the German line is very strong, so I plan to concentrate against the central portion of the defense.

German. I strategically redeploy six surviving east front panzer divisions to Berlin. Six German infantry divisions are sealifted to Danzig. My forces retreat toward Zagreb in good order. The Croats are a match for the Partisans, so I will continue to block with them. I reinforce Nagykanizsa and Vienna. Since Warsaw was not taken, I retreat eight infantry divisions into it and designate it a fortress. In the west, I shift forces to bolster the line in Italy and France. I am already looking a little thin on both fronts. My strategy is still intact, and the Soviets have left my forces in Prussia and northern Poland more or less intact. This allows me to pull back in good order. My forces in Slovakia and west of Cracow are trapped.

Game Turn 3

Soviet. I continue my offensive in Courland and invest Warsaw. The rest of my northern forces contact the German line that runs from Danzig along the Vistula. Danzig looks very strong. I attack Breslau with armor, but it fails. A single tank army clears the Upper Silesian Industrial Region. The cauldron south of Vienna moves north as I attack targets of opportunity to keep them out of the city. I've blocked Vienna with armor. My Yugoslavs are blocked by the Croats. Nagykanizsa falls and forces a move toward Graz and Trieste. The German line is decimated in the south, but so is mine. The Slovakian pocket is contacted by my forces, but I don't want to waste steps reducing it since it is no real threat.

Western Allies. I continue my attacks in Italy and tear open a hole in the eastern part of his line. He has forces to cover it for one more turn. Attacks with the Free French corps push across the Rhine, but with heavy losses. I continue to launch attacks against the Westwall to thin the German line some more. A low odds attack against the northern-most hex of the German line results in a lucky breakthrough. I'm across the Rhine. Unfortunately, I know where his reinforcements are going to go now. My losses are O.K. for now.

German. Six more divisions out of Courland, and I redeploy armor into

Prague from all over. I didn't need that breakthrough on the Rhine. But the Allied player isn't in a position to do anything with it immediately, so I move weak forces to block him and start sliding my good troops toward the Ruhr and Cologne. What's left of the Westwall has only about two divisions per hex; it's going to collapse next turn.

Game Turn 4

Soviet. I continue to reduce Courland. The German player continues to move infantry out, but at least I won't see that armor around Berlin. I make a PA against Memel. The German line is solid in the north, but that's about to change. Warsaw is reduced to a final strength step of German infantry. Graz is reduced. I'm allowing a lull to get replacement levies to a higher level. The offensive will resume next turn.

Western Allies. The destruction of German units in the Westwall continues. He's down to a single division in many hexes. The British corps opposite the Ruhr are moving to contact. Unfortunately, the Ruhr is now packed with Germans. Bologna falls to an attack by the British. The German position in Italy is about to collapse.

German. I've finished my reinforcement of Prague and Berlin. The retreat into the Ruhr is almost complete. I manage to get a unit or two into Vienna. My Slovakian pocket is stationary, but it's still very close to Budapest, and I may attempt to slide some infantry into that city if he gets sloppy. The Vistula front is static. I've stopped the Soviet cold in Yugoslavia and my infantry is packing into Zagreb. With the Soviet armor massing around Posen, I guess he's going to either cross the Oder next turn and go for Berlin from the south, or drive for Prague. The Allied corps have been taking a beating, but he doesn't seem to be slowing down. My air points have really been screwing up the Soviet attacks.

Game Turn 5

Soviet. We're back in business. No MAs, but lots of PAs this turn. Graz falls. A ragged group of depleted armor heads toward Trieste. Memel falls. Attacks along the Vistula decimate the German line there. The attacks in Courland continue; that pocket is all but destroyed. I've had enough of the Slovakian pocket and attack it with the surrounding infantry and destroy it. I'm awaiting the arrival of the forces destroying the German Vistula line to get the Berlin operation started.

Western Allies. The weather has soured

and it's going to slow up the MAs a little. I MA Cologne repeatedly with US corps and reduce it. The British carpet bomb the westernmost hex of the Ruhr and reduce it. The PA finishes it off and the hex is occupied. The Westwall disintegrates under multiple MAs and PAs. A US corps breaks through to Frankfurt. The French attack Stuttgart, but are repulsed. I PA all along the German line in Italy and it collapses. Italy is open for conquest, though there is a force of German infantry that can move to Venice. I probably should look at moving up the Alpine highway into southern Germany to occupy Munich and Salzburg next turn.

German. More reinforcements to Vienna. The Soviet is about to get enough strength together to take it. For all practical purposes, I have no mobile forces left on the eastern front. I moved some armor and paratroops into the Ruhr with strategic movement. My remnants in Italy are moving toward Genoa and Milan. If I can hold on next turn and get my reinforcements, I have a shot at pulling this off. Danzig is now a fortress city.

Game Turn 6

Soviet. I cross the Oder with an armored group and surround Berlin. Operational Group Steiner gets in my way and is shot to pieces. Berlin is surrounded and the German economy collapses. I risk a low odds MA against Vienna and knock off a few German steps there. The odds get better. I make four more MAs and Vienna finally falls. The infantry that was going to make a PA against it moves toward Budapest instead. My forces freed from the Courland operation are almost to Danzig. The armor that was masking Danzig heads toward the north Oder and Stettin. For now I leave Prague alone. My prospects are looking up. The German places his redoubt southeast of Munich.

Western Allies. Now things get interesting. The assault on the Ruhr with stacks of British and US corps begins. My attacks greatly weaken the southeastern hex of the Ruhr, but they don't clear it. The assault on Stuttgart continues to weaken its garrison. I move some of my corps toward central and southern Germany. Munich, Kassel, Hanover and Nuremberg are mine. I can't reach Salzburg. I will regret that.

German. My luck continues to hold. I receive my armored reinforcements at Salzburg and move seven divisions to the redoubt hex. I leave some infantry in Salzburg and send the rest of my reinforcements to the Ruhr. With big garrisons in my victory hexes, I have a chance.

Unfortunately, the Croats were removed with the collapse of the economy, as were my east front aircraft. I was sorely tempted to counterattack a single depleted Soviet tank army in the siege lines surrounding Berlin, but thought I should retain my strength for the final defense. I place flak corps where possible. I designate Berlin a fortress city and sit back to wait.

Game Turn 7

Soviet. My opening 2:1 PA on Berlin gets a 1/3 result. I feel fortunate. The 5:1 against Budapest reduces it three steps. My attack on Danzig only generates one step loss for those defenders. Forces in the east rush to get to the battles, but many of them are depleted infantry units. I don't think I can get sufficient forces to Zagreb to take it.

Western Allies. I have big problems now. The Ruhr's losses have been made good by the German and now I have to dig him out of the redoubt. My forces in Italy continue to mop up, and Genoa, Milan and Venice fall. I'm rushing to get sufficient forces to the redoubt from Italy and southern Germany. Stuttgart falls. My attack against the southeastern Ruhr hex weakens it.

German. Things get even more interesting. I must now watch carefully everywhere for any opportunities. I'm considering moving some forces from Kiel and Hamburg to Bremen, Bremerhaven and Wilhelmshaven, but I think it would dilute my strength too much. I don't want to choke by getting greedy.

Game Turn 8

Soviet. I'm running Operation Thunderclap on Danzig. My armor around Vienna races north to Berlin, bypassing Prague. My Yugoslavs advance toward what looks like an impregnable Zagreb. I make a PA against Danzig; only three steps are left there now. I make a 5:1 PA against Budapest; its garrison is only three steps as well. My PA against Berlin leaves it with 11 steps. Some of my infantry moves west to take Erfurt, lest some straggling German panzer division gets there to make a stand. Dresden is occupied.

Western Allies. Multiple MAs clear the southeast Ruhr hex. Next turn my depleted corps in the south will be strong enough to start attacking the redoubt, but I'm getting a little worried.

German. I control Berlin, Prague, Kiel, Hamburg, Bremen, Wilhelmshaven, Bremerhaven, two hexes of the Ruhr, the redoubt and Zagreb. I have 15 victory points and just two turns to go. My reinforcement goes to Berlin.

Game Turn 9

Soviet. This is the big turn of the game. My depleted armor is depleted no more and is stacked for decisive results around Berlin. Six MAs later, my armor is depleted once again and I hold Berlin. The infantry that was to help with the PA instead heads toward Prague. I'm going to have to pull the Allied player's chestnuts out of the fire because of his troubles with the redoubt. My initial PA against Prague is a 2:1, and it gets a 1/2 result. Danzig falls. Budapest falls.

Western Allies. I occupy Bremerhaven, Wilhelmshaven and Bremen. Salzburg is MAed and falls. A PA against the redoubt leaves it with a garrison of four steps. The northeast Ruhr hex falls to a combination of MAs and PAs, but my assault against the last Ruhr hex is repulsed.

German. I send the *12th Army* to the Ruhr, since Prague has eight units. I have only one more turn to hold, and I have eight victory points under my control.

Game Turn 10

Soviet. My efforts go to reducing Prague. The Allied player has a shot at taking the redoubt, but that's the only hex he can take. I ignore Zagreb. One of my armor stacks executes three MAs at 1:1 and generates three step losses for both sides. The next armor stack makes a 1:1 and rolls a 1/2 result. It then assaults twice again at 3:1 and generates two losses for each side. One step of German armor is left in Prague, and my PA takes care of it. Once again the Red Army has saved the day.

Western Allies. Not to be outdone, I make a PA against the redoubt at 5:1 and roll a 2, for a result of 1/3. A single step of German panzers remain. The Soviet player taunts me. My attack against the Ruhr nets a 1/2 result.

German. I look around for any unoccupied city to slip a unit into, but my opponents have bested me. The Soviet player hands me a pistol and tells me to do the honorable thing.

Summary

The stage was set for a successful Soviet campaign when the German's Courland armor was kept from transporting out for later use around Berlin and Prague. The German player fought a good delaying campaign in the east, but the turn two depletion of armored units in the Westwall and around Budapest guaranteed Prague would be weaker than the minimum strength needed to hold out late. The German player made full use of his critical naval and strategic movement capabilities. Vienna was a magnet

for both sides, and the German resistance early on kept the assaults on Berlin from starting until it was almost too late.

The Western Allied player ran a decent campaign, but seemed to be a little too weak late in the game in southern Germany. Making early even-odds attacks with the French corps tends to deplete them, and any breakthroughs they generate early in the game remain difficult to exploit. This made the redoubt an issue, which it tends usually not to be. In that sense, the collapse of the German economy came one turn too early for the Allies, since they weren't yet in position to occupy Munich and Salzburg and thus keep the redoubt from being reinforced.

The Soviet and Allied players had bad die rolls, but they never occurred during critical MAs against cities, otherwise this game would've been a German victory.

There was some discussion about carrying over into World War III, but the Soviets had seven infantry armies, two mechanized groups, and three mechanized armies in the deadpile, and about half his units were at half-strength. He didn't think he could meet the sudden death victory check, so the game ended.

We used the Axis Yugoslav variant forces, the additional Hungarian army corps, and the new sudden death rule for German units reaching the Italian map edge in order to make the game the manly contest it properly should be.

We've played through the main scenario of *Smithereens* about a dozen times, and have tried to find good set up and second turn strategies. At first we thought the victory conditions favored the Germans, but as Grand Alliance players have become more proficient at using mobile assaults and the special abilities of both armies, and have generally learned to beat on the German army without let up, we now think well played games will usually end in the 5-8 victory point range. More specifically, we think the victory conditions deliver a near-run Alliance victory (5 or 6 points) about half the time, an Alliance blow-out victory (fewer than 5 points) about 20 percent of the time, a near-run German victory (7 or 8 points) about 20 percent of the time, and a German blow-out victory (9 or more points) about 10 percent of the time.

Tet'68

An After Action Report

by Dr. Edward A. Hubeny

It's just hours before the beginning of the 1968 Tet Offensive, and US military intelligence has been advising that a large

Communist offensive is imminent. US forces are concentrated in Military Region (MR) III in the south and MR I in the north. The forces in MR III are situated in cities only where mandated by the rules; their preferred positions are in popular areas and camps. Saigon is practically surrounded by large-combat-factor units. In MR I, where they have an option, US units are in base camps within easy striking distance of Hue. Only units required by the rules are in MR II and MR IV.

Communist forces concentrate heavily around A Shau and Tchepone in MR I, in preparation for an attack on Hue. In MR III, they are positioned in the south, so they can easily move south, southeast, and/or west, as the situation develops.

Game Turn 1

The offensive begins with the Communists attacking 11 cities. Hue and Da Nang City in MR I fall, Saigon falls in MR III, and Long Xuyen, Cao Lanh and Vi Thanh, all in MR IV, are captured. However, attacks fail on Rach Gia, Quan Long, Phu Vinh, Da Lat and Gia Nghia. So 54 percent of their attacks succeed. The Communists have 35 points.

Game Turn 2

Communist forces attack seven more cities, achieving less than mediocre luck for their efforts. Rach Gia, Quan Long and Gia Nghia fall, but attacks on Hoi An, Soc Trang, Phu Vinh and Tam Ky all fail. In addition, five VC units are lost during the attacks, and US forces cause heavy collateral damage to several cities with defensive fire. The Communists now hold nine cities, including Saigon and Hue, and will have 91 points at the end of this turn if the US doesn't retake some of the cities.

US forces respond rapidly, committing overwhelming ground strength to an attack on Saigon, and with only a minimal chance of retaking it, still succeed in annihilating the defenders there. One NVA and three VC units are eliminated; Saigon is again in US hands. Attempts to retake Cao Lanh and Da Lat fail, with the VC losing four units. Meanwhile, in the north all available air and sea firepower is combined with massive ground strength to attack Hue. Three NVA units are eliminated, but Hue holds — barely. The US engages in Political Combat (PC); the Communists lose 25 points; the US loses 9 points. The Communist has 51 points; the US has 26.

Game Turn 3

The Communists receive bad news at the onset: the weather is still clear, and the

VC don't receive any replacements this turn. Undaunted, Hue is reinforced with two units. VC units attack Tam Ky, but fail to take the city, and they lose a unit in the process. Hoi An is attacked; some of the attacking units are in Da Nang City. The attack fails with the attackers all being destroyed; this leaves Da Nang City free of Communist control. A VC unit is eliminated attempting to count coup. To frustrate the anticipated US attacks this turn, a small VC force attacks a weakly defended Saigon. The ploy succeeds, but two units are eliminated. However, Saigon is once again under Communist control. In PC the US loses 5 points.

Reacting swiftly, US forces wheel and attack Saigon. The attack is successful, but the defending VC unit escapes. Hue is surrounded and the attack eliminates all Communist defenders. Da Lat is attacked and captured, with two VC defenders eliminated. An attack on Cao Lanh fails, and massive collateral damage results. Rangers attack the NVA base camp near the DMZ without result. "I" forces chase several underground VC units, but fail to bring them to battle. The US intelligence forces screwed up; the VC are revealed to be dummies. In PC the US loses 16 points, while the Communist loses 12.

Game Turn 4

The weather is clear and the VC receive one replacement. Communist units are shuttled and redeployed in preparation for a future offensive. They engage only in PC, which results in both sides losing two points. The Communists are still in good shape; they have five cities in MR IV, and are husbanding their replacements.

US Rangers again attack the NVA base camp near the DMZ. The camp stubbornly holds, but two NVA units are eliminated. An attack on Long Xuyen fails, but eliminates two VC units there. The US attacks Quan Long and fails, resulting in severe collateral damage. VC dummy units still lead other US units on a merry chase. An underground VC unit is eliminated in Intelligence Combat (IC). In PC the US loses four points, while the Communist loses 11. The Communist now has 68 total victory points, to a US total of 37.

Game Turn 5

The weather remains clear and the VC receive two replacement units. NVA and VC units attack and retake Hue; losing one NVA unit in the process. Other NVA units attack but fail to take Quang Tri, also losing a unit for their trouble. VC units attack and capture Soc Trang and

Phu Vinh, but lose two units in the fighting. An attack on My Tho fails.

Massive US forces surround Hue and Quang Tri, and eliminate five Communist units caught inside. Long Xuyen is recaptured after its three Communist defenders are eliminated. Vi Thanh is attacked, eliminating two VC units, but the place holds. A very heavy attack on Phu Vinh fails and extreme collateral damage is generated. In PC the Communist loses 22 points, while the US loses two.

The Communist commander is chagrined; he has just given 40 points to the US forces for a net gain of two cities worth six points. This offensive hasn't turned out as planned. The total of Communist victory points is 73; the US has 75.

Game Turn 6

The weather is clear and the VC receive a replacement, but the Communists are spent. Less than 20 percent of the original NVA and less than 14 percent of the original VC remain. The US is not only back in the game, they lead. All Communist units except VC cadre and an NVA unit in Rach Gia go underground. The NVA units make their way to Cambodia and Laos, while VC units escape to friendly popular areas. In PC the US loses 12 points; the Communist loses five.

US forces take Rach Gia, eliminating the NVA defender. They also bag two VC cadre units. All cities are now back in US control, and the US Army deploys to garrison as many of them as possible. In PC the Communist loses five points; the US loses 10. The Communist has 63 victory points total; the US has a total of 61.

Game Turn 7

The weather is clear and the VC receive one replacement. Still, the Communists settle for PC only. The US loses 20 points, the Communist loses seven.

US forces attack and eliminate two open Cadre units, and another underground VC is destroyed in IC. In PC the Communist loses 20 points, and the US loses eight. The Communist has a total of 36 victory points; the US has 39.

The US player wins, but only by three points. The Communist player gave the game away in turn five, though only the good fortune of the two Cadre eliminations at the last minute that swung the victory point total toward the US. Still, both sides could claim a tactical victory.

Afterword

There are many lessons to be learned from this scenario #1 play through. The most important of them is that PC is the

most potent form of combat; however, it's a double-edged sword, affecting both the user and his opponent. During the seven turns of the scenario, the US lost 99 points to the Communist loss of 125. Those are large numbers.

On average, a "P" unit is worth about 1.5 cities in terms of points lost to an opponent. In fact, it may be argued that a "P" unit is more valuable in an enemy popular area performing PC, than garnering that extra victory point while in a city. (The exceptions to this are Saigon and Hue.) The Communist didn't employ PC during the first, second and fifth turns of the game. One can only wonder how different the US strategy would've been had they begun turn two with -30 points.


Weather is also an important factor. Bad weather limits the US response to Communist attacks, and can be worth two to five captured cities after turn one.

A flexible strategy is a must; both sides must be willing to scrap plans at a moment's notice if the situation warrants it. Since the US over-concentrated at Saigon and Hue, any plan for a long Communist occupation of either of those cities was unrealistic. Therefore the Communist should have attacked as he did on turn one, but on turn two he should have moved out of Saigon to free those forces for an attack on some other city.

Turn five was a fiasco for the Communist; it should never have happened. They had almost a 2:1 ratio in VP over the US, and really didn't need the aggravation associated with attacking a highly reinforced key city. If the Communist really felt a need to attack, some minor city would have been the better place. If nothing else, the Communists could have gone to ground, utilizing PC exclusively.

Dau Tranh should not be overlooked in its value in areas other than combat. Had the Communist used it for replacements, there would more than likely have been two VC replacements per turn during turns three and four.

As for the US, those forces survived a potentially disastrous set up. True, the major cities of Saigon and Hue were heavily defended, but if the turn two Saigon attack hadn't been successful, the US would have been in trouble. In fact, it was the only successful US attack during that turn.

The US has overwhelming airpower, and that can sometimes lull that player into a false sense of security when contemplating attacks. But airpower cannot take or hold real estate; only ground troops can do that. 

ERRATA

Shogun Triumphant

6.8 Activation by Enemy Proximity (clarification). If a clan switches sides (treachery) on activation, non-activated clans within two hexes *are not* automatically activated — the treacherous units must move or attack to cause activation.

If a unit switches sides on activation and is adjacent to an unactivated clan, the treacherous unit may not move: it must attack, thus activating the adjacent clan.

Each unit moving into range of an unactivated clan triggers an activation check, but each unit triggers only one check per clan — don't make a separate check for each hex entered.

Czechoslovakia '38

Counters

The proper set up hex for the German *12th Infantry Division* is 4905, rather than 4904 as shown on the counter.

The four German aircraft units with nothing on their "Interdiction" sides may be used for that mission.

Back To Iraq

Counters

The US *101st Air Assault Division* is missing its turn of entry number in the upper-left of its 5-9 counter.

The optional Kuwaiti units were mistakenly printed in the GCC static forces color combination rather than that of mobile units.

The Kuwaiti "1SPSF" tank brigade should be the "15 PSF" tank brigade.

We'll provide replacement counters for all of these on the counter sheet in issue no. 26.

D-ELIM

When Eagles Fight

by Ted S. Raicer

[The following uses the historical scenario.]

Russian Player

You can win the game in the first six turns if you're both skillful and lucky, but if you push that luck too far you can put yourself in a hopeless position. You must walk a fine line between boldness and caution. Austria-Hungary is your target, but until they start taking losses their troops are a match for yours. Threaten their supply lines, and use your greater numbers to stretch them thin, especially west of Krakow. Above all, if luck goes against you, be prepared to break off the attack before your losses get out of hand.

In the north, save as much of the *2nd Army* as you can and try to keep up enough pressure to prevent the Germans aiding the Austro-Hungarians — even one German active corps in an Austrian fortress will make you pay. The German has relatively few powerful units available, so he can't hold a long line. You can keep him busy by threatening his flanks. Be wary of OberOst — you don't get a chance to rescue units which get surrounded; they will die in the attrition phase.

If you don't win in the first six turns, the lack of ammo and surplus of Germans will lead to a crisis in the summer of 1915 — accept it. Figure out what you have to hold to stay in the game, and plan on losing everything else. Your fortresses will be the only real stumbling block for the Germans, protect them as long as possible.

Don't be afraid to counterattack, but don't get carried away. Conduct a fighting withdrawal when you can; simply run when you can't. No matter how black things look, don't quit; your army has great powers of recovery. As for Brusilov, the threat is often as potent as the reality. But if you have a clear shot to wreck the Austro-Hungarian army, go for it.

Central Powers

The German army, even poorly used, can inflict far greater losses than it receives. Exploiting that fact to the fullest is the key to a Central Powers victory.

WEF will usually break down into three or four distinct phases. The first few turns may find the Austro-Hungarians hanging on by their fingernails. Don't fight for Lemberg; the Russian will shatter your flanks. Instead, fall back to the mountains. Protect your forts, but be prepared to lose Przemysl after September.

On turn one the Germans should re-fight Tannenberg. The best defense is truly a good offense — but don't needlessly risk your German "A Corps." Hit the Russian where he's weak. Attacking his strongest forts will probably have to wait for the heavy artillery, but a garrison alone is a good target. You'll probably have to send a couple of corps to help the Austro-Hungarians, but don't get pinned down on the defense. Use the OberOst unit to the max.

By turn eight or nine the Russian should be in full retreat — don't let up. The Russian replacement rate is much higher than yours; he can trade a lot of space for time, and Verdun awaits. You have about six turns to break the Russian army; don't waste any of them.

If the Russian survives past turn 13, you'll have to fight on an extended front with too few troops. Don't attack everywhere — make attacks at key points. Bleed the Russian, but remember, in a war of attrition he has the upper hand.

Watch out for the Brusilov Offensive, but don't send so much south to protect the Austro-Hungarians that you endanger your front in the north. Brusilov is a double-edged sword, and the Russian will be cautious about wielding it.

As for random events, mostly they are not your friends — accept it. And, like the Russian, never give up.

Classic XTR Ziplocks

Mississippi Banzai — Alternative history (the Germans and Japanese win WWII and conquer the world) game covering the Japanese offensive against German-held St. Louis. Division-level, one map (8 miles/hex), 300x1/2" counters. **\$10.00**

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Wahoo! — What-if game covering Lee's attack on Washington after he wins at Gettysburg. Brigade-level, one map (400 yards/hex), 300x1/2" counters. **\$10.00**

For ordering information, see the Back Issues ad on page 35

TRIUMPHANT FOX

ROMMEL'S FINEST HOUR

The Situation. The Time is 6:30 p.m., 26 May 1942. Panzerarmee Afrika, led by Erwin Rommel and comprising some ten thousand vehicles, is about to shatter the stillness of the North African desert by striking out at the Gazala Line. The German offensive, code-name Operation Theseus, is now underway.

With the Western Mediterranean theatre hanging in the balance, the Gazala Battles would undoubtedly represent the fiercest of fighting to be witnessed during the entire North African campaign, involving one thousand tanks and a quarter-million men. Both sides would taste victory and flirt with disaster at the same time, as the pendulum of battle whisked upon the desert sands. When the sand settled four weeks later, Tobruk had fallen and the Afrika Korps would continue its race eastward to Alexandria; the grand prize being the Suez Canal.

Although the Axis drive would ultimately fail at El Alamein, the Gazala Battles would become known as Rommel's Finest Hour.

The Game. *Triumphant Fox* is MiH's exciting new operational simulation of the Gazala Battles which allows you to explore one of the most daring offensives undertaken by the Desert Fox.

The centerpiece of the *Triumphant Fox* game system is the Operations Cycle in which both players grapple for the initiative to activate their formations and conduct various actions. True to history, this makes for an incredibly tense and exciting game as neither player can rest assured when and how the opposing player will react during the course of battle. This captures the lightening thrusts and tremendous ebb and flow of battle as both players wrestle for initiative and react to the enemy's moves.

Other than the campaign game, shorter scenarios allow players to study the opening phase of the Axis offensive as well as the final assault on Tobruk. Although best-suited for two players in a face-to-face showdown in the desert, *Triumphant Fox* also delivers the same level of excitement for solitaire play as well.

The Company. Moments in History (MiH) is a newly-founded game publisher based out of Europe committed to providing leading-edge historical simulations — extensively developed and playtested to ensure optimum playability. To deliver a top-quality and attractive package, all components are manufactured in the United States.

True to its name, MiH is dedicated to producing games that you will find entertaining while serving as a paper time machine; allowing you to rediscover and study that moment in history for yourself.

MiH is equally dedicated to delivering complete customer satisfaction. Towards this end, MiH has selected Admiralty House Publications as its authorized worldwide distributor. Furthermore, a newsletter will be provided to support the ever-broadening line of exciting games to keep current on the latest news.

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- One full-color 22 x 34 inch game map
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 - Player Aid Cards
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- Unit Scale:** Regiment/Battalion
 - Time Scale:** Each turn = 1 to 6 days
 - Map Scale:** Each hex = 3 km.
 - Players:** One to Two
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Highly-Interactive Sequence of Play ☆ Random Events ☆ Formation Activation and Reaction ☆ Reserve Status ☆ Screen Movement ☆ Independent Units ☆ Three Types of Ground Combat Actions ☆ Combined Arms ☆ Tank Superiority ☆ British Armor Commitment ☆ Battle Victory ☆ Minefields ☆ British Boxes, including the Free French Brigade at Bir Hacheim ☆ Combat and Engineer Support ☆ Replacements ☆ Unit Effectiveness, Armor and Anti-Tank Ratings ☆ Isolation ☆ Italian Surrender ☆ Emergency Supply Recovery ☆ Unit Cannibalization ☆ Special unit types include German FLAK, Kampfgruppe Hecker, Air units, HQ units, and last but not least, Generaloberst Erwin Rommel. *Need we say more?*

PLACING YOUR ORDER

Triumphant Fox sells for \$30 and will be available in December at many Fine Game Stores worldwide or order direct from Admiralty House Publications.

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GAME DESIGN
Dirk Blennemann

GAME DEVELOPMENT
Ulrich Blennemann,
John Kranz

ART DIRECTOR
John Kranz



Next to come in Spring '94

Objective: Kharkov is the working-title of MiH's operational study of the Red Army counteroffensive following Operation Zitadelle in August of 1943. The game will be of moderate complexity, featuring a single map, 340 counters. The game designer is John Desch.



MOMENTS
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You can order the special, "Talking Version of *Triumphant Fox*" for \$32 plus shipping. This includes a 90-minute audio cassette tutorial to help you learn to play the game, including player notes, roundtable discussion and interview with the game designer. Don't miss out on this tremendous offer — order your Talking Version of *Triumphant Fox* today!

To Compute or not to Compute...

For the last dozen years or so we've all been hearing about the imminent demise of board wargaming at the hands (keys?) of computer games. Any number of our Loyal Readers have written or called asking us to a) do a computer review column or b) put computer games in the magazine or c) both of the above.

Computer games can do things board-games can't. Hidden movement/limited intelligence, complex algorithms for combat resolution, and virtually infinite record keeping abilities allowing for multi-step/multi-mode units, are child's play for a computer. The games are easier to store, don't have pieces to lose, are immune to cats and children, never have rules questions (once the program's been debugged, a big "once"), have no set up/take down time, and can be stored in-progress at the press of the key.

But before they can take over completely, there are a number of changes that must occur in both the computers themselves and in the programming.

Hardware

Current computers have significant limitations. The limited size of the screen means a player must constantly scroll around the map. The only way to get the big picture is to increase the scale, which usually distorts or eliminates detail. Even then, the player is forced to bounce back and forth from the big view to detail views. The new 20" monitors are a step in the right direction. Our own Larry Hoffman (a *Civilization* addict) recently upgraded to the bigger monitor, and the way the game looks — more precisely the way he can look at the game — has improved dramatically.

Players can communicate with current computers only through a mouse or keyboard. This is not the kind of intuitive access available in board games — if you want to know something or move someone on a map, you just reach out and touch it. In combination with the scrolling problem, it makes the game board, pieces and information less accessible than in a board game (though when contact is made, more — or less — information is available).

Another problem, affecting business more than the play, is the presence of three major systems (Apple, IBM and Amiga) in the market. There are sufficient differences between them to make it unlikely one programmer can do all three. To produce a game, a publisher must 1) choose only one computer to support, or 2) produce two or more programs, which means it must pay two or more programmers.

All of these problems will be solved in the coming years. Monitors will get bigger (and flatter, making them usable in positions other than the traditional desk mount). Access will be improved by touch screens or even voice communication. The negotiations between IBM and Apple make it likely the problem of multiple systems will simply go away. In a few years the tactile advantage of boardgames is likely to disappear.

Computers Can't Bluff

The major complaint about computer games — voiced even by their supporters — is the computer player — the "artificial intelligence" or AI — is stupid.

AI can easily handle the physical movement of individual units. The problems arise when trying to get the AI to create a cohesive — never mind clever — strategy. If the program fixes the strategy, the computer will play rigidly and can often be beaten by illogical moves it is not programmed to handle. If the program relies too heavily on responding to enemy moves, again it can be faked out of position by less-than-logical moves. This problem is worst in fluid situations — making the AI defend a medieval castle is simpler than letting it play the Germans in *Barbarossa*. Harder still would be creating an AI capable of making (or calling) bluffs or taking risks.

That's not to say computers can't be programmed with viable AI. The problem lies with the programmers. For the most part, the guys who have been designing wargames in our hobby — doing the detailed research and analysis of situations to determine what is important and why — are not proficient programmers, while the guys who are proficient programmers do not have the historical/analytical background needed to teach a machine about strategy. Somehow the program must be "seeded" with a strategy or strategies based on non-numerical concepts.

Such an AI would also free the human player to play a single point of view. He would issue only general instructions, leaving the computer to handle the ad-

ministrative detail and activities of subordinate commanders.

For AI to improve, there must be some merging of the programmer and designer/historian. This will happen when a) there is a good business reason for the manufacturer to pay both, or b) higher-level programs make it possible for a designer who is a computer near-illiterate to do the work.

Who Needs Bluffing Computers

The question of AI may become moot. There are a number of new programs taking advantage not of the computer, but of the telecommunications net (which may be vastly improved soon if Clinton's fiber-optic network is approved). The biggest problem in the boardgame industry has always been finding someone to play face-to-face; even if a gamer is available, he may not like the same games or be available at the same time.

Electronic bulletin boards bring together geographically separated gamers. There are already numerous baseball and stock market games running, and systems are now popping up to support wargames (if you haven't read the *Aide De Camp* ad to the right, take a minute to do so). These systems currently don't do much of the work — you still have to enter your moves, roll the die, etc — but no doubt future versions will perform more of the administrative functions of the game (even the actual movement of units, which is one of the things AI currently does well).

Such gaming not only makes sophisticated AI unnecessary (or it could still be there to act as an "advisor"), it gives the gamer something no computer ever can: the thrill of victory or agony of defeat — you can't gloat at a blank screen.

...That is the Question

Will computer games replace boardgames? Probably. Will we start doing computer games. Again, probably, but not in the near future. The problems I've noted simply make it unlikely computer games will be a viable alternative for some time to come. ❖

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Classified Ads & Conventions

Subscribers to the hobby edition of this magazine may place one free ad in this section each issue their subscription runs. Maximum free length is 50 words, including name and address. There are no repeat ads; if you want your ad to run more than once, you must send it in separately for each issue. We reserve the right to edit or exclude anything we find offensive or just plain don't like. Please type or print your ad clearly. Non-subscribers and businesses, or subscribers needing more than 50 words, can get in here for 10¢ per word. (For subscribers, that's 10¢ per word after the first free 50.) Again, no automatic repeats from issue to issue.

Spring Fever III, 21-22 May 1994, at the Rod & Gun Club of New Bedford, Inc., 1407 Hixville Rd., No. Dartmouth MA. Boardgames and miniatures, a balance of historical periods. For information contact: the SE Mass. Gamers, c/o Carl Noguiera, 45 Jenkins St., New Bedford MA 02740.

JAXCON '94, 18-20 February 1994, at the Holiday Inn at Baymeadows in Jacksonville, Florida. Everything from war games to live-action roleplaying, including Four-man Team Competition, painted miniatures contest, award ceremony, flea market, dealer's area, and lots of door prizes. Registration: \$15.00/weekend before January 1, 1994; \$22.00/weekend, \$11.00/day for Friday or Saturday, or \$7.00/day for Sunday at the door. Write to: JAXCON, PO Box 4423, Dept. M, Jacksonville, FL 32201; or call 904/778-1730.

THE SOCIETY OF ANCIENTS: Did you enjoy Alexandros? Then join our Society, now in its 28th year. Includes one year subscription to our journal, Slingshot, 48+ pages on ancient & medieval wargaming. Send \$20 cash (£14) for surface mail, \$25 cash (£16) for airmail to C. Kinnear, 3 Carmel Road, Pontlliw, Swansea SA4 1EX, UK.

WinterCon '94: 15 January 1994 at the Lincoln Park Kennedy Recreation Center, off I-75 south of Detroit, from 9am to midnight, admission \$10, parking is free. More than 80 events: board games, miniatures, role playing (many systems), kids' and family games, open gaming, auction — no separate fees or registration, just get here and sign up. Presented by Metro Detroit Gamers. For info call Mike Bartnikowski 313/928-7744, or write WinterCon '94, PO Box 656, Wyandotte MI 48192.

FOR SALE: Napoleon's Last Battles (TSR) \$18 mint, Juggernaut Module (GMT) \$8 mint, Napoleon's First Battles (DG) \$18 partially punched, excellent condition. Send check to Matt White, 8662 Sugarloaf Circle, Sandy, UT 84093. 801/942-2724.

FOR SALE: SPI, OSG, AH, VG, GDW and others 60+ games, mint to good. Inc. Bloody April and Russo Japanese War. Wanted: S/T #1-23. Write for list to Michael N. Scopone, 13977 Blackburn, Livonia, MI 48154. 313/421-6402, M-F 2-10pm EST.

WANTED: Mint S&T's from 1-38. Punched/boxed/FT Wacht Am Rhein and Campaign for N. Africa. Guaranteed good offers. For Sale: Mint/punched S&T's from 44-156. Mint PRESTAGS, mint Wacht Am Rhein, punched TSS, many others. Send your list & I'll send mine. Otherwise, SASE for mine. I'm: Tony Trupiano, 25314 Monterey Circle, Lomita, CA 90717. 310/539-0220. Happy gaming!

GAMES FOR SALE: Operation Typhoon (SPI), Lee at Gettysburg (SPI), Wilderness (SPI), Bull Run (SPI), Empire In Arms (ADG), Tskda Hobby V, Wellington's Victory (SPI), and many more, some at clearance prices. Send SASE to John Sokol, 505 Perry Ave., Greensburg, PA 15601.

LIST OF GAMES & misc. game components for sale. Looking to buy various games. Let's exchange SASE and lists. John S. Baker, 4675 S. Harrison Rd. Space #95, Tucson, AZ 85730. 602/290-9177.

FOR SALE/TRADE: Games, magazines, books; War In Europe \$100; other SPI, AH, Rand, 3W, S&T and more. Priced to sell. I want S&T #1-25 and WG #1-15. Thomas Stana, 113 Hunter Way, Chalfont, PA 18914.

IS THERE ANYONE OUT THERE? - AUSTRALIA: Gamer new to Cairns area looking for ftf opponents. I have an extensive collection. Contact Mark Chee, 4 Cooma St., Edmonton QLD Australia, (070) 452468.

MOVING TO STUTTGART, GERMANY. Looking for wargamers in Southern Germany. Ryan Schultz, 1092 Rolling Point Ct., Va Beach, VA 23456, USA.

FOR SALE: Over 200 wargames and magazines; SPI, S&T, General, Wargamer, Moves, F&M, Campaign, Run 5, Grenadier, IBM computer games, early Computer Gaming World. Send SASE to Doug Traversa, 1924 A Hawaii St., Grand Forks AFB, ND 58204, or call 701/594-5582.

WANTED: buy/trade various back issues of S&T, F&M, Moves and Wargamer vol. 1. I have various back issues that will swap. Dan Molinero, 1819 Marshallfield Ln. #1, Redondo Beach, CA 90278.

WANTED: SPI "War Between The States", "Pea Ridge", "Drive On Washington". Call or write: Robert Gunn, 320 SE 3rd St. #D-7, Gainesville, FL 32601. 904/377-3124.

FOR SALE: Large collection of wargames and gaming magazines. 100+ including SPI War In Europe-Bx, mint, Descent On Crete, mint, etc. A.H. Battleline, Hobby Japan, Yaq., 3W Wargamers, S&T Nova, etc. Send SASE to: Chris Green, 1500 N.W. 15th Ave., #10, Boca Raton, FL 33486. 407/392-6979.

WANTED: 3rd Fleet, Russian Front, West of Alamein, Code of Bushido, Gung Ho and ASL Annuals. Have military books, board and computer (IBM) wargames for sale or trade. New and out of print, priced low. Send SASE for list. Bill Hawkins, 6756 Heatherbrook Dr., Knoxville TN 37931.

FOR SALE: Last of my mags: S&T 61-151 with gaps, mint, punched, mags only (9). Also several boxed games, most mint. Send SASE, Norman MacDonald, 177S. Franklin St., Holbrook, MA 02343. 617/767-1345.

WANTED: TTW. For sale or trade: SS America, TWTPBAB (FGA), Second Front (SSI), and many other board and (IBM) computer games. Send me your list and I'll send mine. Duane Coyle, 410 Third St., Manistee, MI 49660.

WANTED: Contact for correspondence with other board and computer (PC) wargamers from all over the world, especially Europe. Trading games of all kinds possible. Write to Przemek Wisniewski, ul. Krosnienska 10a, 60-162 Poznan, Poland.

BRUSSELS: Opponents wanted in the Brussels area for most Command and XTR games; also AH (esp. TRC), S&T, WiF, etc. Stig Olsen, Avenue de Beloeil 6, B-1180 Bruxelles, Belgium. Phone 295-1410 (daytime) or 375-9763 (evenings).

For Sale: Over 200 wargames and magazines; SPI, Avalon Hill, S&T, Wargamer, Moves, F&M, Campaign, Run 5, General, Grenadier, and many rare games. Also have IBM computer games. Send SASE to Doug Traversa, 1924-A Hawaii St., Grand Forks AFB, ND 58204, phone 701/594-5582.

For Sale: Collection of wargames and magazines. For list and prices contact Bill Reiman, 6410 Casa Vista Dr., Garland, TX 75043.

For Sale: Wargames from ADG, AH, CoA, GDW, OSG and more. All at fantastic prices! Magazines, too. Send an SASE to James Evans-White, 805 Michael Drive, Sonoma, CA 95476, or call 707/996-4475.

NEEDED: copy of the French order of battle for Conflict Games' Verdun (1972). H. Timmer, Beaumontstr. 6, 4691-JB Tholen, Netherlands.

For Sale: In SPI plastic flats: punched — Vera Cruz, Conquistador, Minuteman; 25% punched — Strategy I; unpunched — Year of the Rat, Frigate, Red Sun Rising. Best offer on post card by next Command. John E. Brown, Box 227, Luzerne, MI 48636-0227.

FOR SALE: Small collection of out-of-print games priced for the player vs. the collector. Includes AH, SPI, WE and 3W. Send SASE to M.J. Sabottke, 212-B Agawam Dr., Stratford, CT 06497.

Wanted To Trade. Anyone want to trade a copy of old SPI's *The Art of Siege Quad* for a *Command* subscription or ziplocks? The quad needn't be unpunched, just in playable condition with all the pieces. Write or fax: Ty Bomba, c/o XTR Corp., P.O. Box 4017, San Luis Obispo, CA 93403. Fax: 805/546-0570. ☼

VARIANT

NATO Composite Force

A Back to Iraq Variant

by Ty Bomba

16.33. NATO Composite Force. Add this unit to the Coalition OB in Scenario III. It represents an *ad hoc* division put together by NATO (and "Associated Powers," including former Warsaw Pact and Soviet Union states) for use against the "Devils' Alliance" of Iran and Iraq. The unit enters, via a Turkish supply source hex, seven game turns after Iranian entry in Scenario three — it's possible, depending on when Iran enters, the NCF won't get into the theater in time. It enters as a 5-7; an incremental reinforcement step is received for the unit each game turn after entry, to a maximum of five steps. (The extra 2 Strength points at max strength are a bonus for being at full strength — we assume this unit won't absorb losses as efficiently as a pure-national unit.

The unit is considered a full-blooded Western Powers formation, with all the powers and characteristics accorded to US, UK and French units, with two exceptions. First, it only enters and traces supply through Turkish source hexes. Second, due to the many different unit-structures and doctrines held by the formations within it, any HA in which the NCF participates generates an L3, instead of the usual L2, defender bonus.

Design Note. One of our playtesters commented: "The 'NATO COMFOR,' huh? This is the kind of outfit that Osprey would bring out a book about after the war." ☼

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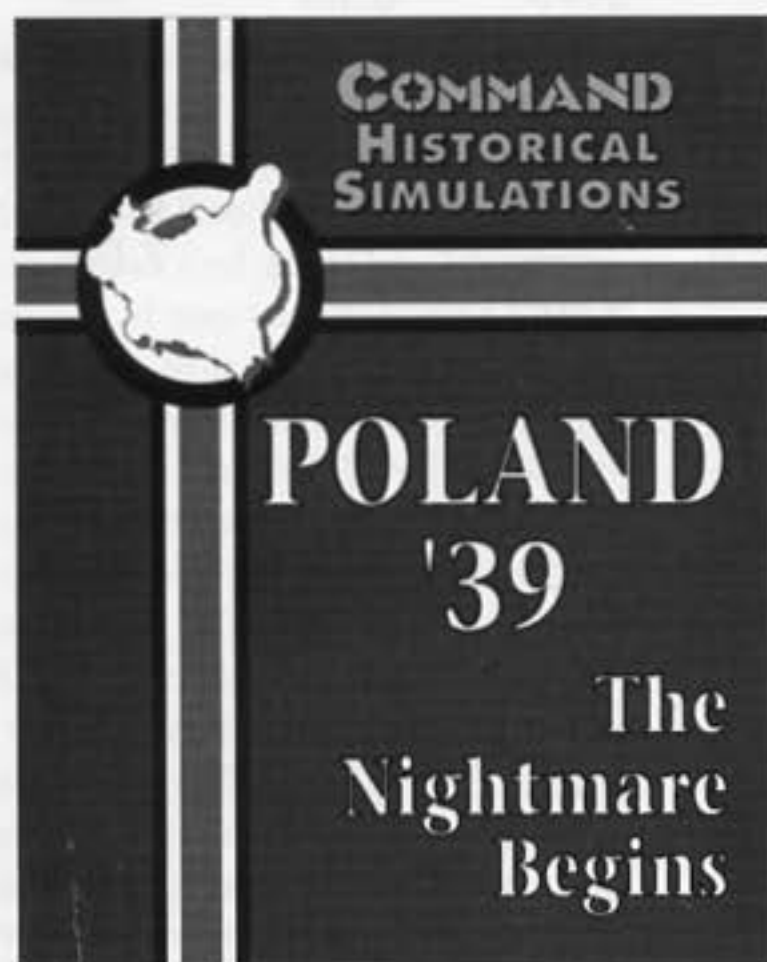
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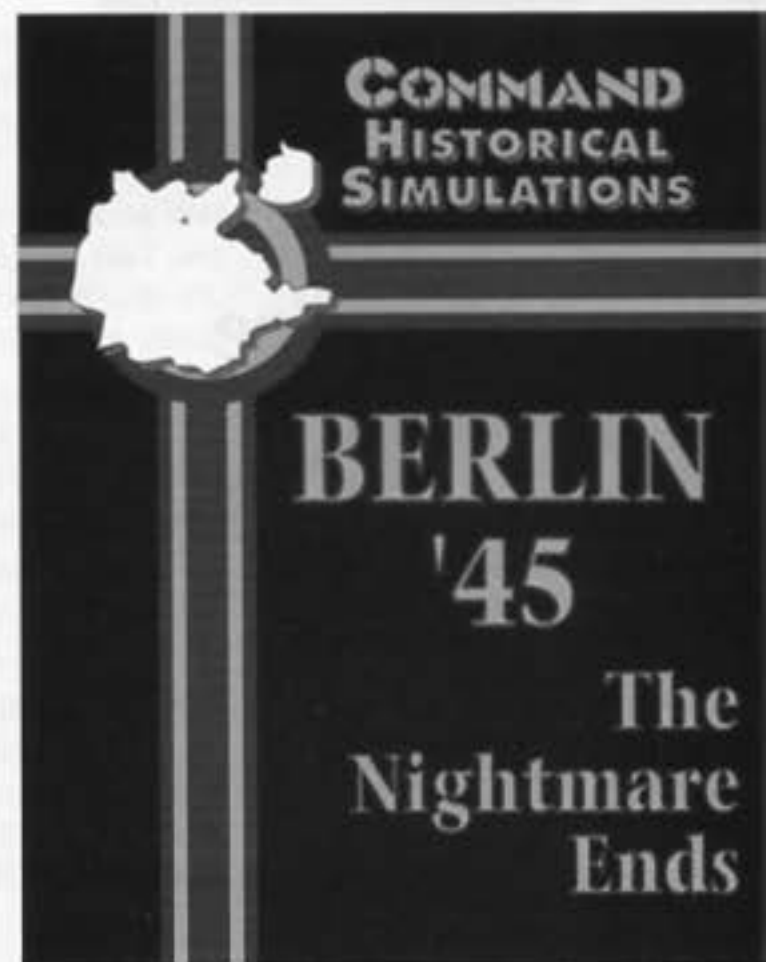
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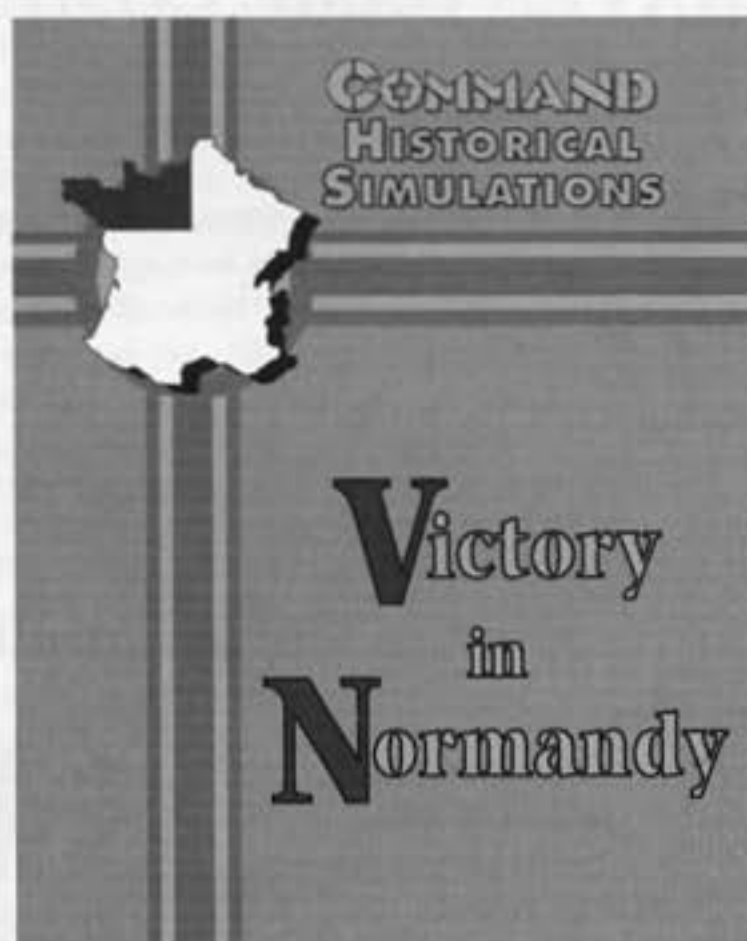
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STRATEGIC MOVEMENT LIMITS (b)

Country	1914	1915
Austria-Hungary	4	4
German (in Germany/Russia)	6/3	6/3

COMBAT RESULTS TABLE (CRT)

Die Roll	Final Odds Ratio			
	1:2	1:1	2:1	3:1
≤ 1	E / 0	3 / 0	2 / 0	2 / 0
2	2 / 0	2 / 1	1 / 0	1 / 0
3	2 / 1	1 / 0	1 / 1	1 / 1
4	1 / 0	1 / 1	1 / 1	0 / 1
5	1 / 1	0 / 1	1 / 2	1 / 2
6	0 / 1	1 / 2	0 / 2	1 / 2
7	1 / 2	0 / 2	1 / E	0 / 1
8	0 / 2	1 / E	0 / E	B / E
9 ≥	0 / 2	0 / E	B / E	B / E

CRT NOTES:
 Odds higher than 5:1 are resolved as 5:1 (but see 13.12).
 Odds less than 1:2 have automatic E/0 results.
 B: Attacker Breakthrough (with zero LPs).
 E: Eliminated (all units of that side are placed in deadpile).

HILO			
		- 1 / - 2*	
		- 1 / - 2*	
			0

0	
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RM.
 the Hex.



GERMANY

RUSSIAN-POLAND

Warsaw

Lodz

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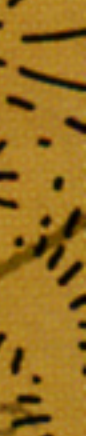
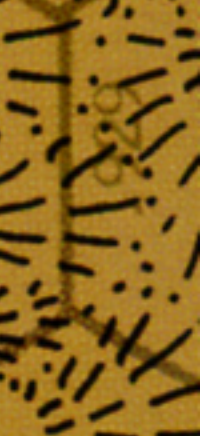
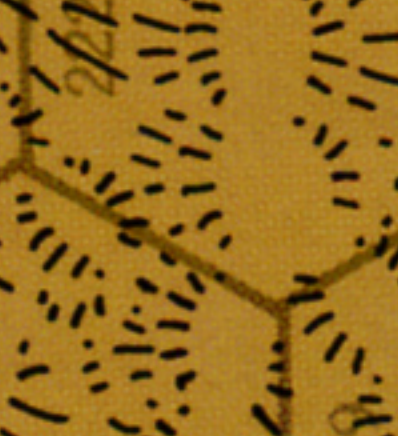
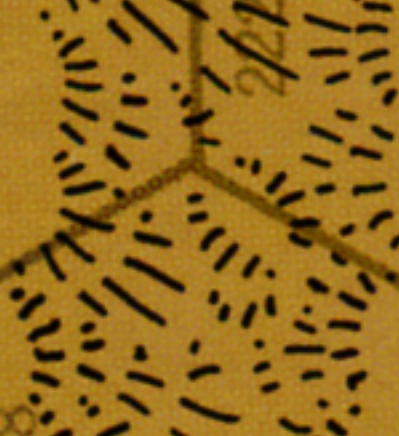
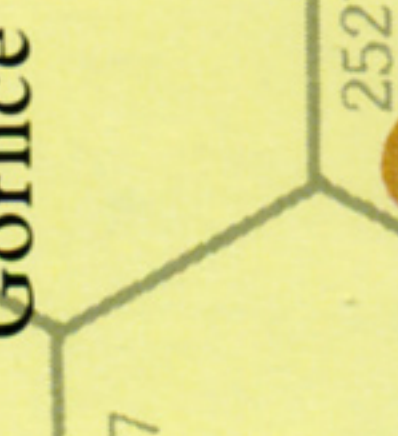
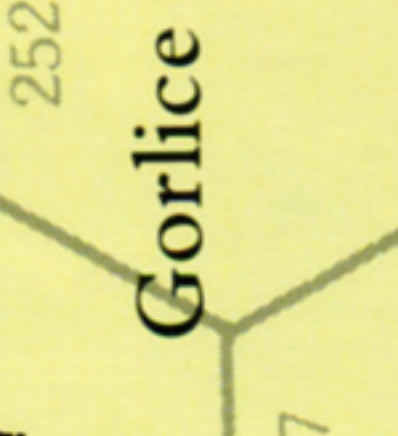
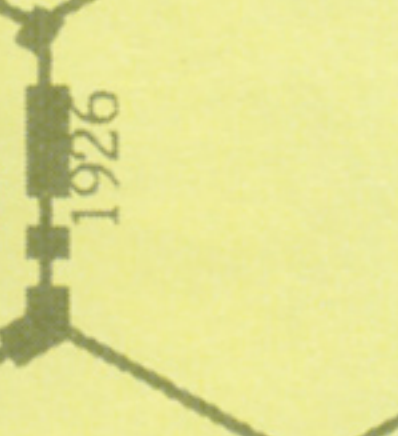
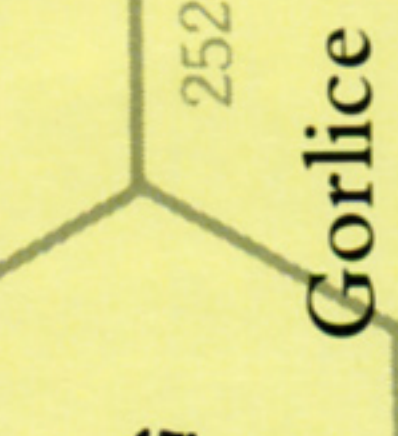
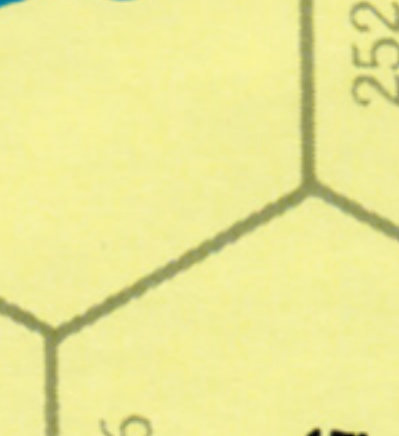
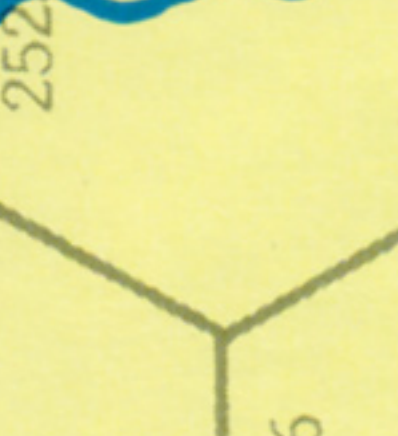
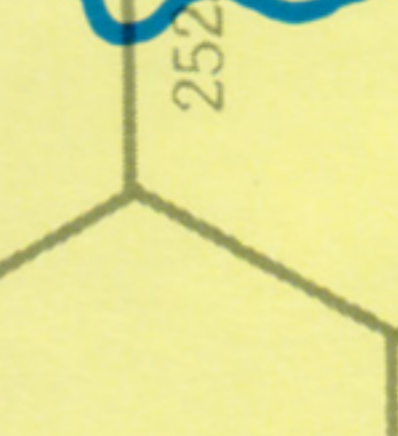
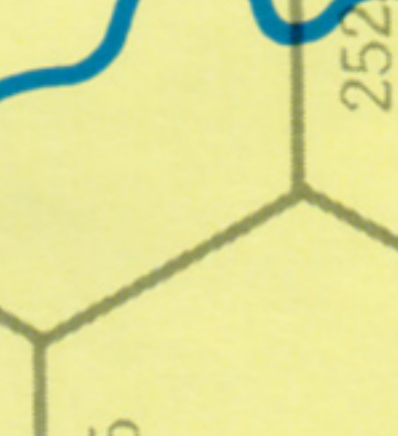
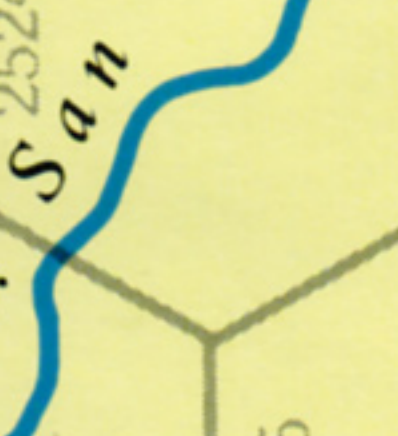
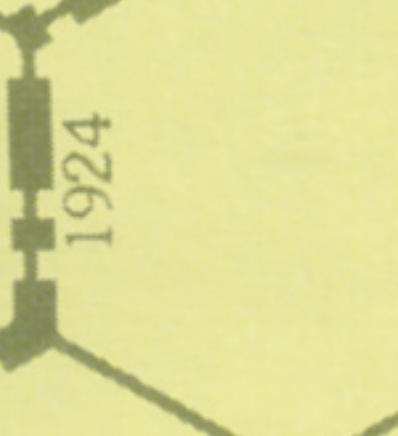
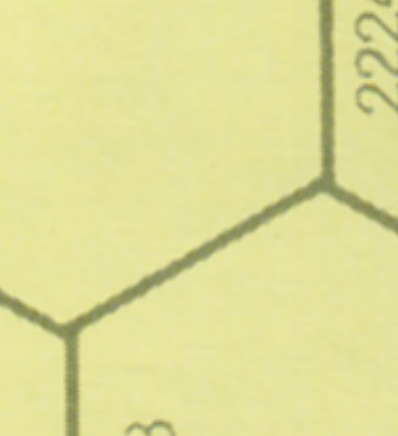
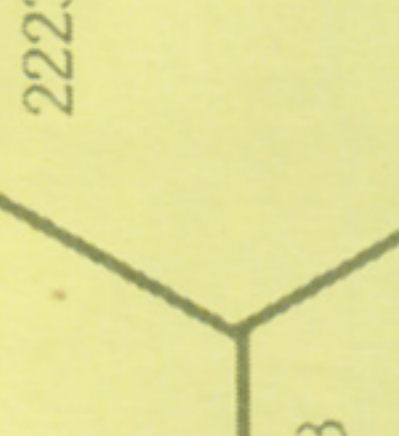
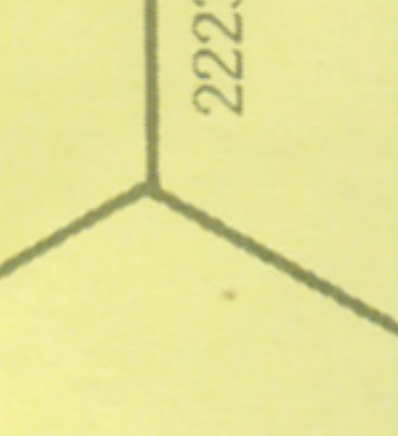
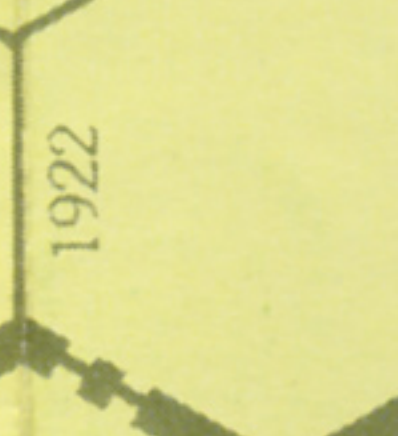
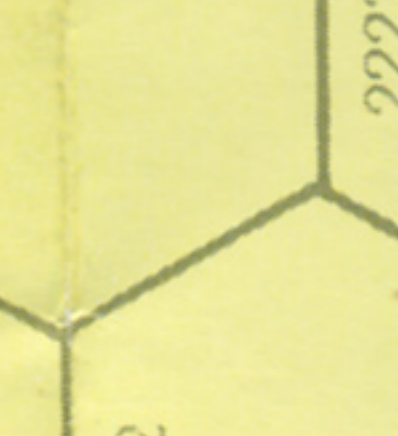
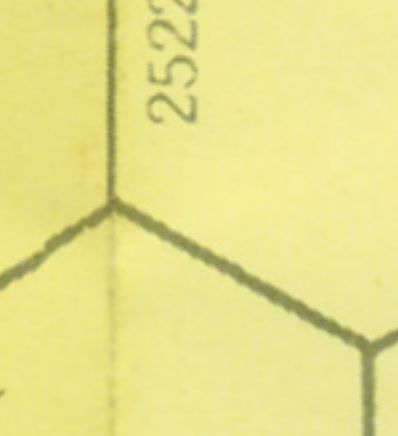
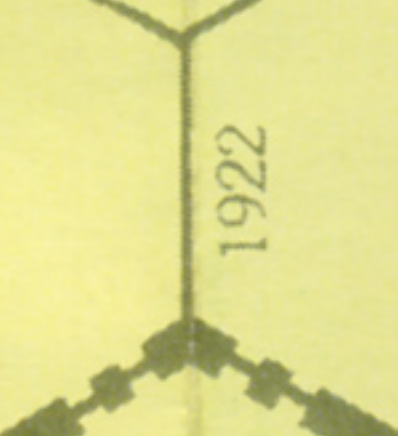
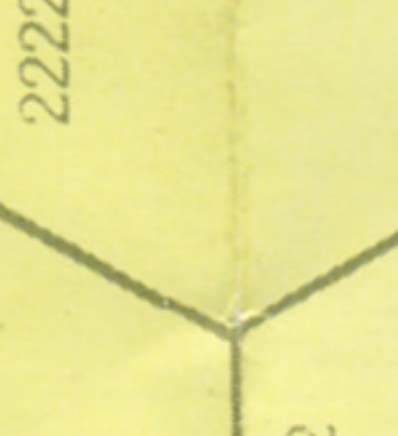
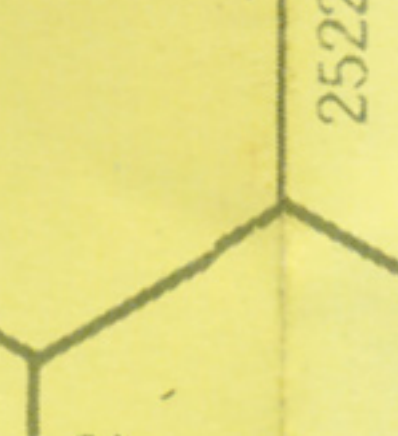
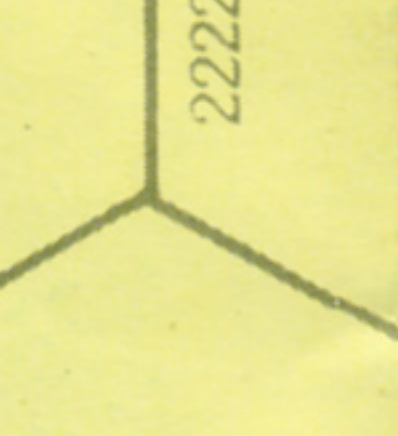
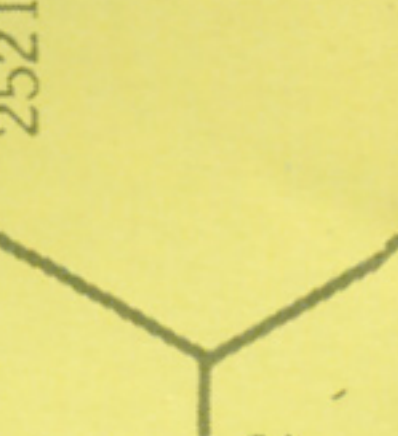
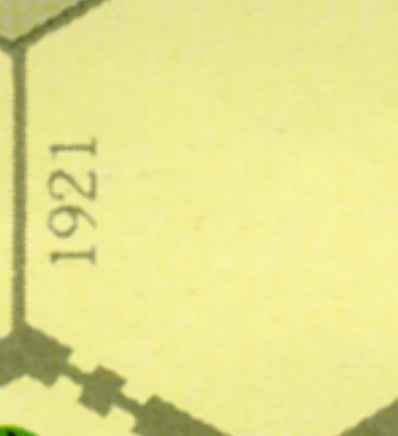
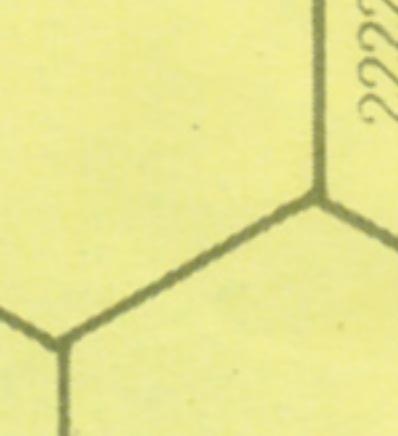
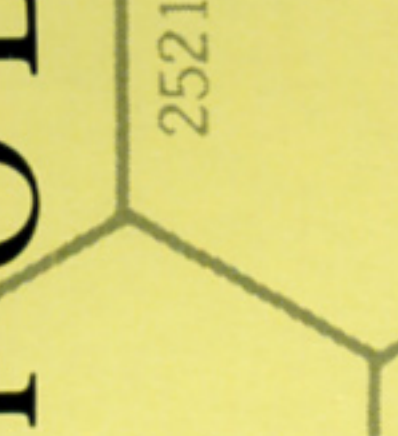
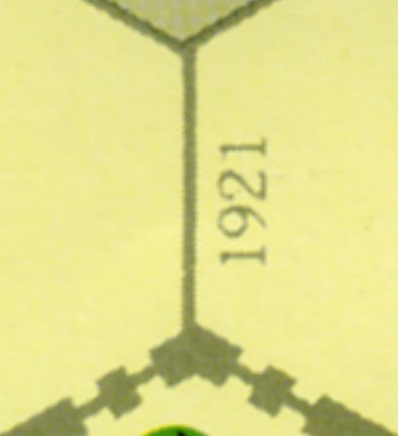
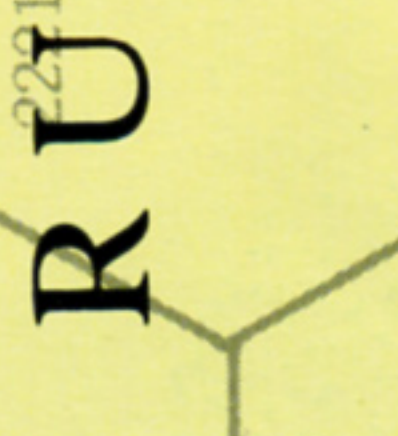
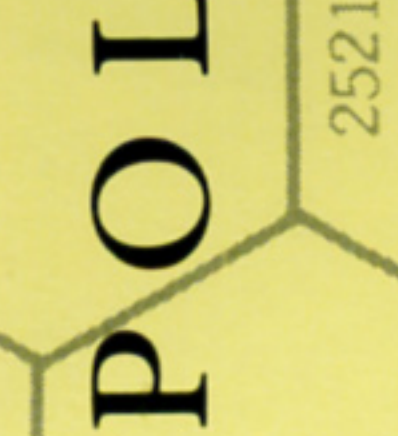
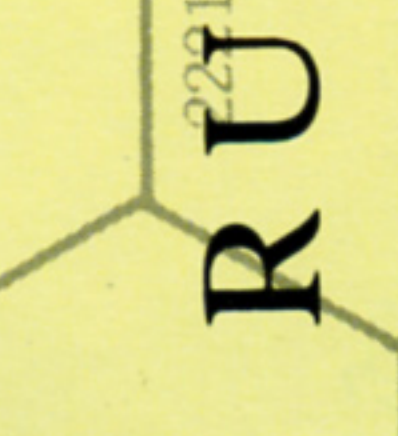
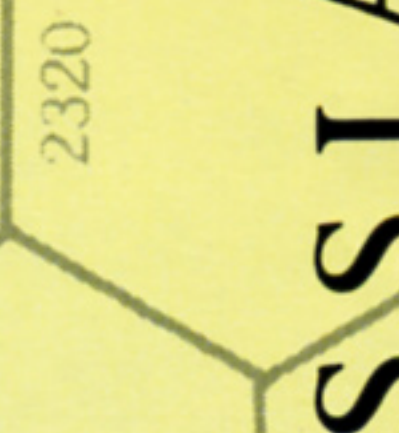
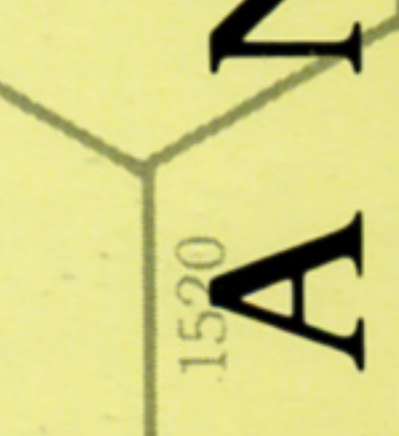
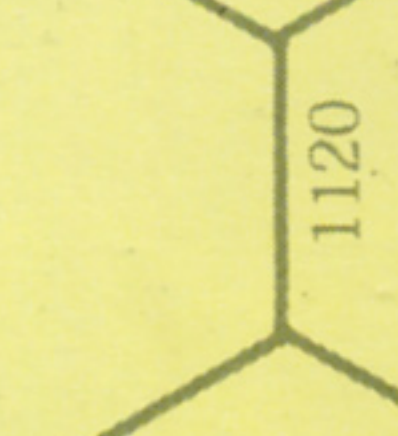
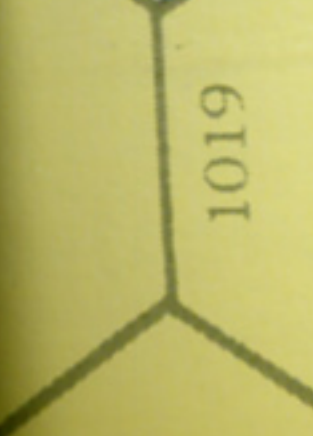
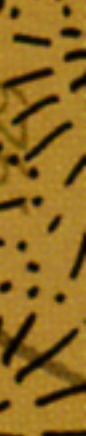
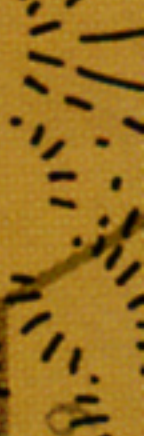
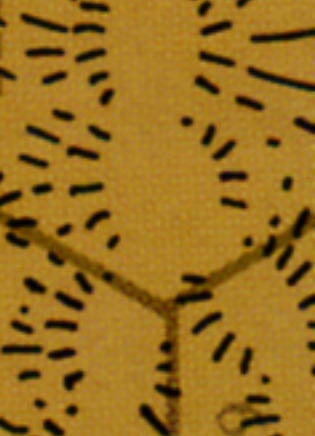
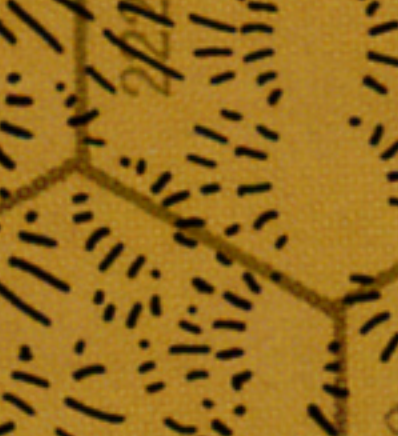
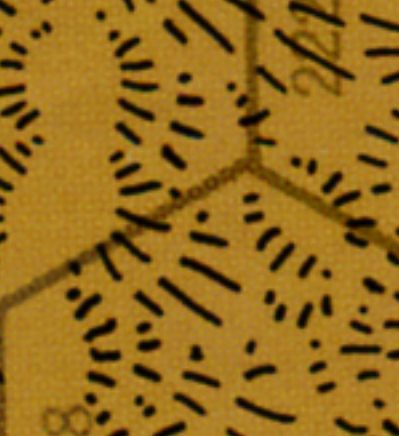
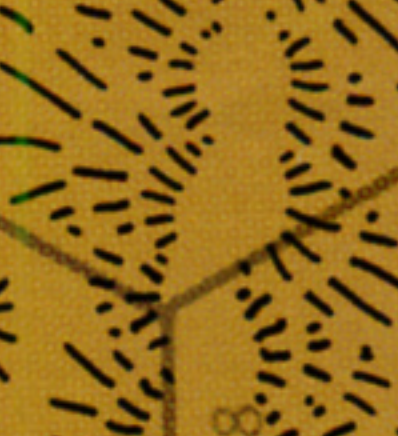
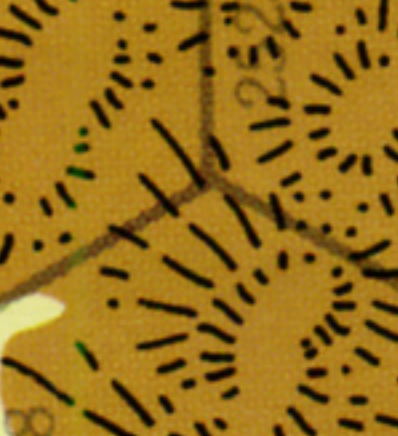
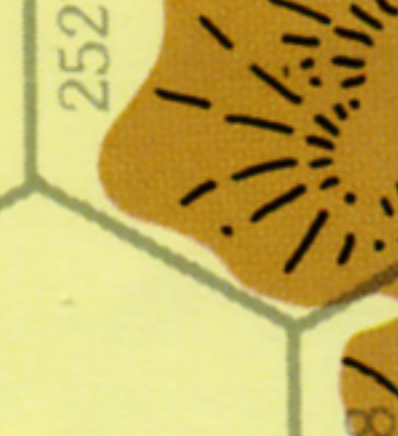
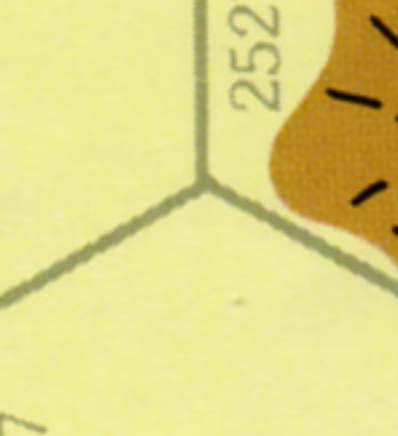
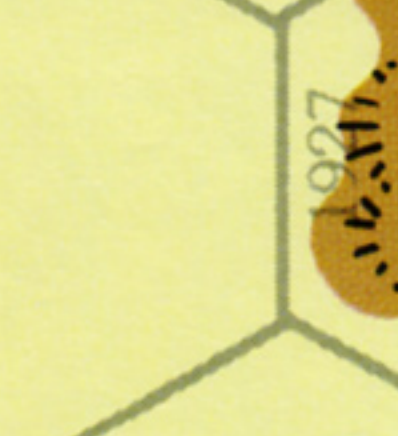
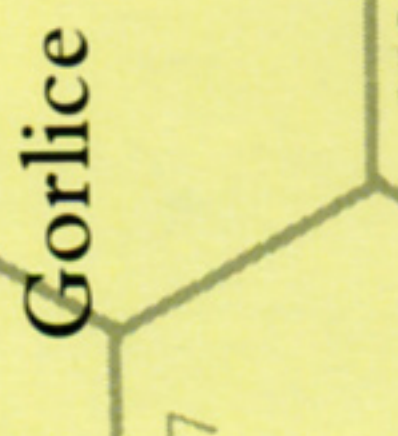
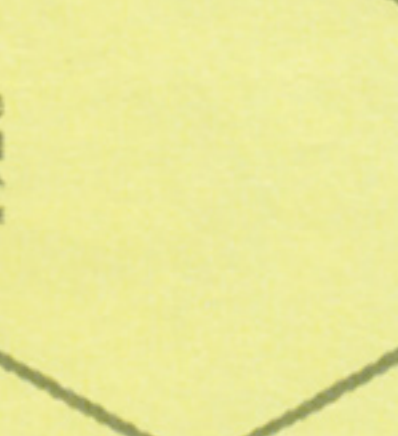
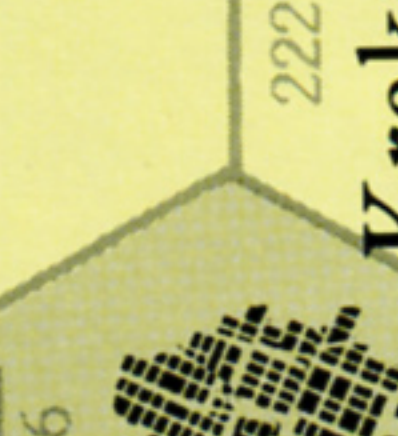
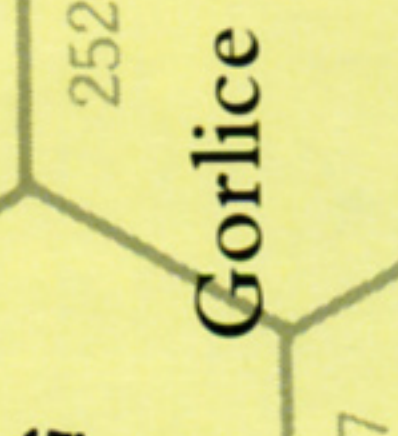
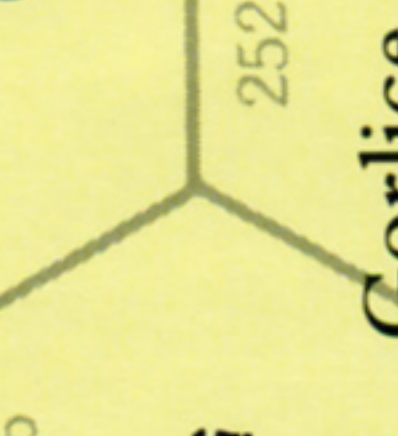
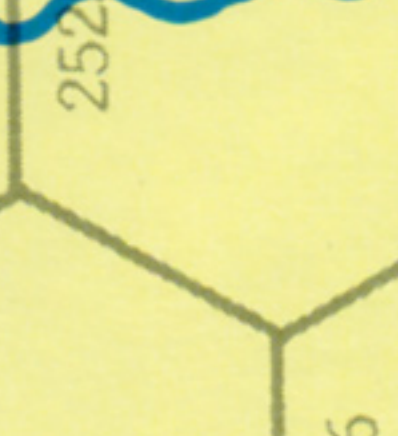
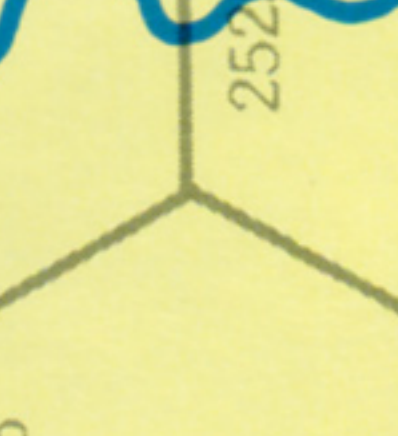
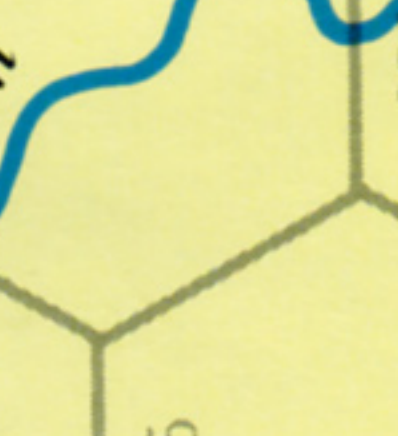
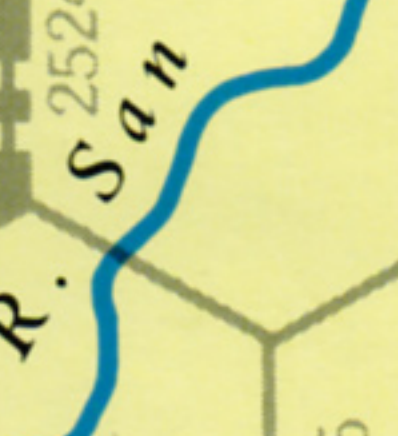
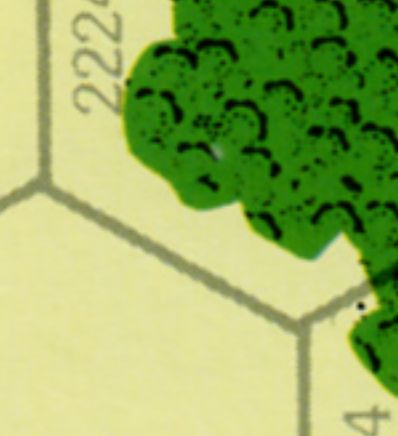
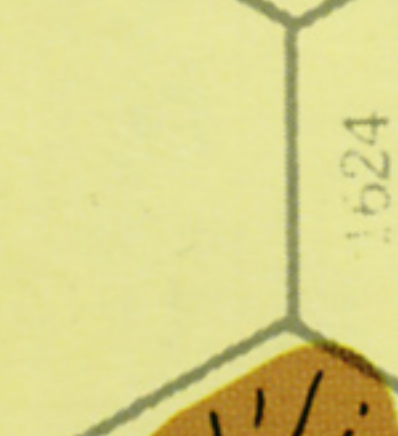
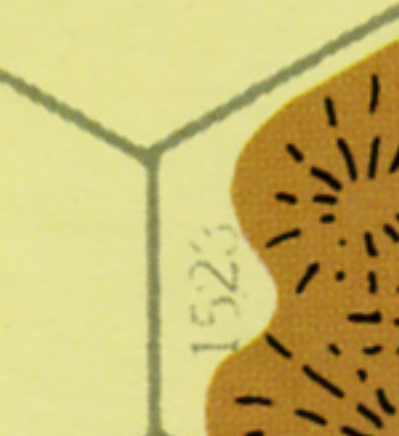
Prague

Brun

R. Vistula

Przemys

Ra





August 1916	G2 / A2 / R4	Russ. Vic: 2 / 3 Rev: 11	September 1916	G2 / A2 / R3	Russ. Vic: 2 / 3 Rev: 11	October 1916	G2 / A2 / R3	November/December 1916	G2 / A0 / R2	January/February 1917	G2 / A0 / R0	March/April 1917	G0 / A0 / R0
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★ = Russian Player may declare his "Brusilov Offensive."

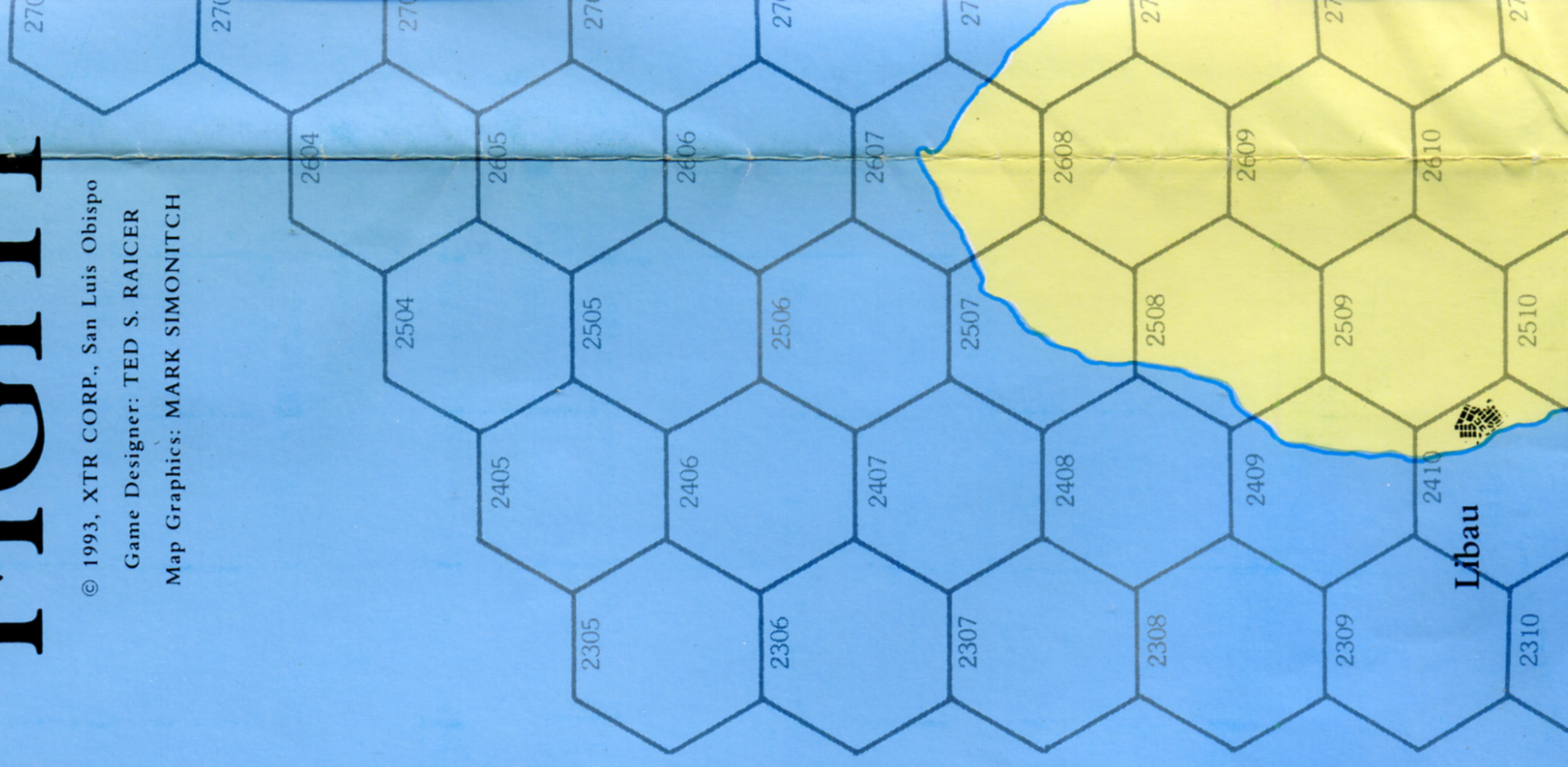
☐ = Victory Check Turn

TURN RECORD TRACK

1 August 1914 G0 / A0 / R0	2 September 1914 Russ. Vic: 3 / 3 Rev: 8 G0 / A0 / R3	3 October 1914 G0 / A6 / R6	4 November/December 1914 G0 / A4 / R2	5 January/February 1915 G0 / A2 / R6	6 March/April 1915 Russ. Vic: 4 / 3 Rev: 8 G2 / A2 / R5
7 May 1915 G4 / A2 / R4	8 June 1915 G4 / A2 / R5	9 July 1915 G4 / A2 / R4	10 August 1915 G4 / A2 / R6	11 September 1915 Russ. Vic: 4 / 3 Rev: 11 G2 / A2 / R7	12 October 1915 CP Balkan Withdrawal G2 / A2 / R7
13 November/December 1915 Remove Russ. G Corps G2 / A2 / R8	14 January/February 1916 CP Balkan Return G2 / A2 / R10	15 * March/April 1916 Start Brusilov? Russ. Vic: 3/3 Rev: 11 G2 / A2 / R8	16 * May 1916 G2 / A2 / R6	17 * June 1916 G2 / A2 / R6	18 * July 1916 G2 / A2 / R5
19 August 1916	20 September 1916	21 October 1916	22 November/December 1916	23 January/February 1917	24 March/April 1917

WHEN EAGLES FIGHT

© 1993, XTR CORP., San Luis Obispo
 Game Designer: TED S. RAICER
 Map Graphics: MARK SIMONITCH



THE WHITE

by Luis Obispo
S. RAICER
SIMONITCH





RUSSIA

Smolensk

Vitebsk

Orsha

Pskov

Dvinsk

Kovno

Riga

Szawli

R. Nieman

R. Dvina

Lake Ilmen

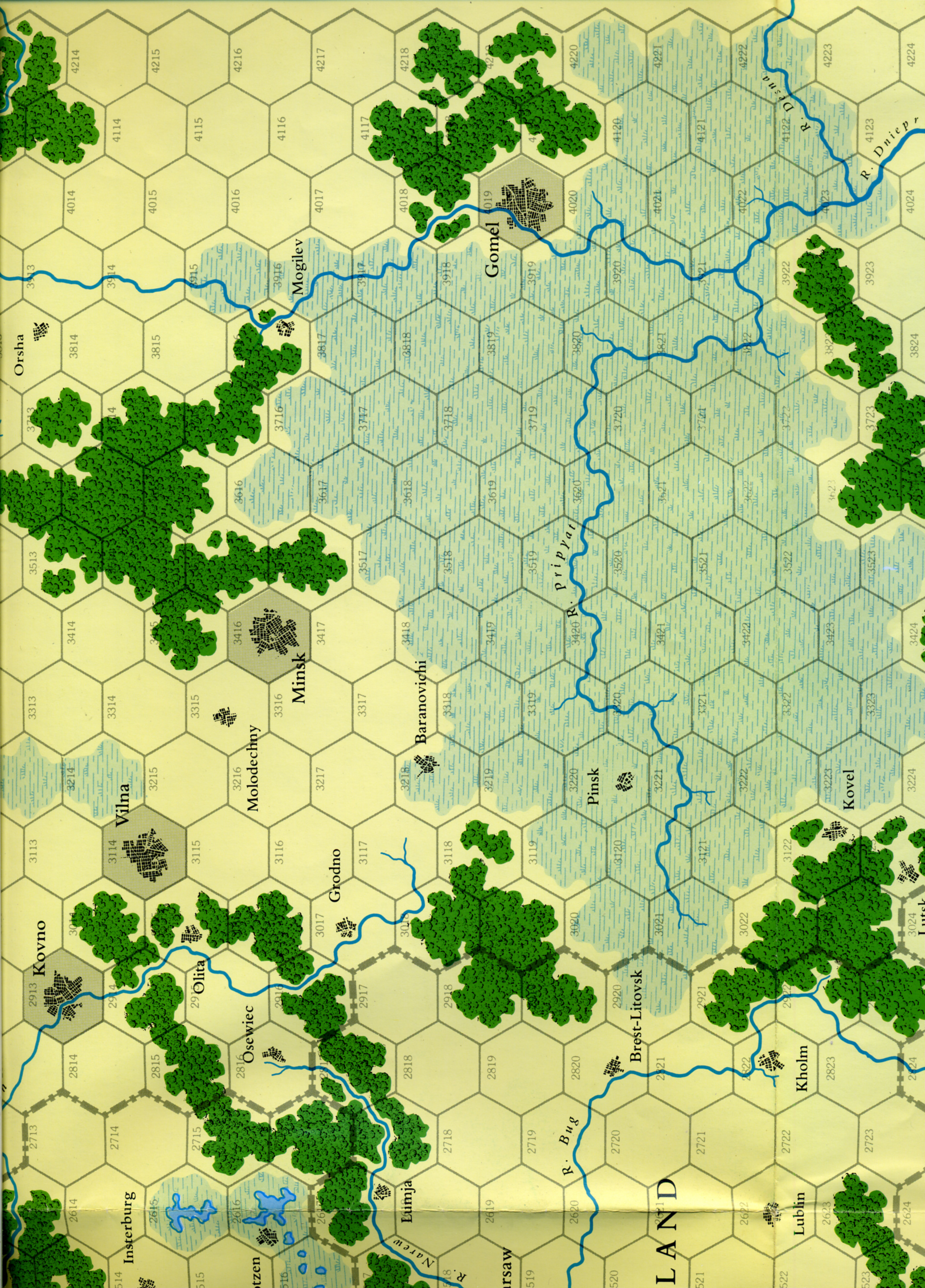
Lake Peipus

Novgorod

Insterburg

R. Luga

Vilna



Orsha

Mogilev

Gomel

Minsk

Baranovichy

Pinsk

Vilna

Molodechny

Grodno

Kovno

Olita

Osewiec

Brest-Litovsk

Kholm

Insterburg

Lublin

Warsaw

Lublin

LAND

R. Bug

R. Pripyat

R. Dniepr

R. Narva



Kiev

Odessa

RUSSIA

ROMANIA

Rowno

Dubno

Brody

Lemberg

Tarnopol

Czernowitz

Przemysl

Jassy

Rava-Ruska

R. Dnieper

R. Southern Bug

R. Dniestr

R. Prut

A-

RY

ART (TEC)

Combat Die Roll Modifier (DRM)	
0	
0	
-1	
-2	
OTIH	
-1	
P	
P	
0	
0	
-1/-2*	
-1/-2*	
OTIH	

ACCUMULATED REPLACEMENTS

0
1
2
3
4

STRATEGIC MOVEMENT LIMITS (by CORPS)

Country	1914	1915	1916	1917
Austria-Hungary	4	4	4	4
German (in Germany/Russia)	6/3	6/3	5/5	5/5



COMBAT RESULTS TABLE (CRT)

Die Roll	1:2	1:1	2:1	3:1	4:1	5:1 >
≤1	E/0	3/0	2/0	2/0	1/0	1/0
2	2/0	2/1	1/0	1/0	1/1	1/2
3	2/1	1/0	1/1	1/1	0/1	0/2
4	1/0	1/1	1/1	0/1	0/2	1/E
5	1/1	0/1	1/2	1/2	1/E	0/E
6	0/1	1/2	0/2	1/E	0/E	B/E
7	1/2	0/2	1/E	0/E	B/E	B/E
8	0/2	1/E	0/E	B/E	B/E	B/E
9 >	0/2	0/E	B/E	B/E	B/E	B/E

CRT NOTES:
 Odds higher than 5:1 are resolved as 5:1 (but see 13.12).
 Odds less than 1:2 have automatic E/0 results.
 B: Attacker Breakthrough (with zero LPs).
 E: Eliminated (all units of that side are placed in deadpile).

RANDOM EVENTS TABLE

Die Roll	Event During Game Turns 5-11	Event During Game Turns 12-24
2	B	G
3	I	L
4	F	F
5	C	C
6	E	A
7	A	K
8	E	J
9	D	D
10	C	E
11	J	L
12	H	E

TERRAIN EFFECTS CHART (TEC)

Terrain Type	Movement Cost	Com Die Roll Mod
Clear	1	0
Forest	2	0
Marsh	2	-
Mountain	2	-
Mountain Pass	1	OT
River	OTIH	-
All-Lake hexside	P	P
All-Sea hex/hexside	P	P
Town	OTIH	0
Victory Town	OTIH	0
City	1	-1/-
Imperial City	1	-1/-
Geographic Victory Hex	OTIH	OT

TEC NOTES:
 OTIH: Movement cost or DRM determined by Other Terrain In the Hex.
 P: Prohibited
 *Russians defending in these places in Russia-proper receive -2 DRM.
 All applicable modifiers are cumulative.

STRATEGIC MOVEMENT LIMITS (by CORPS)

Country	1914	1915	1916	1917
Russia	5	4	3	3



COMBAT RESULTS TABLE (CRT)

Die Roll	Final Odds Ratio					
	1:2	1:1	2:1	3:1	4:1	5:1 ≥
≤1	E / 0	3 / 0	2 / 0	2 / 0	1 / 0	1 / 0
2	2 / 0	2 / 1	1 / 0	1 / 0	1 / 1	1 / 2
3	2 / 1	1 / 0	1 / 1	1 / 1	0 / 1	0 / 2
4	1 / 0	1 / 1	1 / 1	0 / 1	0 / 2	1 / E
5	1 / 1	0 / 1	1 / 2	1 / 2	1 / E	0 / E
6	0 / 1	1 / 2	0 / 2	1 / E	0 / E	B / E
7	1 / 2	0 / 2	1 / E	0 / E	B / E	B / E
8	0 / 2	1 / E	0 / E	B / E	B / E	B / E
9 ≥	0 / 2	0 / E	B / E	B / E	B / E	B / E

CRT NOTES:
 Odds higher than 5:1 are resolved as 5:1 (but see 13.12).
 Odds less than 1:2 have automatic E/0 results.
 B: Attacker Breakthrough (with zero LPs).
 E: Eliminated (all units of that side are placed in deadpile).

RUSSIAN AMMUNITION SHORTAGE TABLE

Die Roll	Game Turn Numbers					
	2-3	4-6	7-10	11-13	14-19	20-24
≤1	2	4	6	4	2	2
2	2	4	8	4	2	4
3	2	4	10	4	4	6
4	2	6	10	6	4	6
5	4	6	12	6	6	8
6 ≥	4	8	12	6	6	8

MODIFIERS:
 Russian Plan 19: -1 on turns 1-6
 Random Event H: -2 each turn the Russians control Odessa.
 Brusilov Offensive: +1 on every turn after the offensive ends.

2425 XXX -1	2525 XXX 5	2325 XXX 10	2730 XXX 4/2	2830 XXX 7/2	2929 XXX 9/2	2926 XXX 3	2926 XXX 11
3027 XXX 14	2626 XXX 2	2725 XXX 9	2826 XXX 17	2126 XXX KMR	3229 XXX 12	3127 XXX 38	3128 XXX 43
5-6-4*	6-7-4*	5-6-4*	5-6-4*	5-6-4*	6-7-4*	1-2-4*	1-2-4*

EH Ober -Ost	Ger. Repl.	2126 0-2-0*	2726 0-3-0*	2 1-1-6	7 3-4-3	7 3-4-3	A-H Repl.
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1822 XXX 4-5-4	2314 XXX 6-7-4	2614 XXX 1-1-6	2514 XXX 5-6-4	2615 XXX 2-2-4*	2615 XXX 6-7-4	2416 XXX 6-7-4	2314 XXX 1-3-2
4-5-4	6-7-4	1-1-6	5-6-4	2-2-4*	6-7-4	6-7-4	1-3-2

2 XXX 1-1-6	2 XXX 6-7-4	2 XXX 5-6-4	2 XXX 4-5-4	2 XXX 4-5-4	2-1619 0-1-0*	2-2117 0-1-0*	4 XXX 2-2-6
1-1-6	6-7-4	5-6-4	4-5-4	4-5-4	0-1-0*	0-1-0*	2-2-6

4 XXX 2-2-6	4 XXX 5-6-4	4 XXX 5-6-4	4 XXX 4-5-4	4-1622 0-1-0*	5 XXX 6-7-4	5 XXX 5-6-4	5 XXX 6-7-4
2-2-6	5-6-4	5-6-4	4-5-4	0-1-0*	6-7-4	5-6-4	6-7-4

5 XXX 5-6-4	6 XXX 6-7-4	6 XXX 5-6-4	6 XXX 5-6-4	6 XXX 5-6-4	7 XXX 6-7-4	7 XXX 0-0-3*	7 XXX 5-6-4
5-6-4	6-7-4	5-6-4	5-6-4	5-6-4	6-7-4	0-0-3*	5-6-4

7 XXX 5-6-4	7 XXX 6-7-4	8 XXX 5-6-4	8 XXX 5-6-4	8 XXX 0-0-3*	8 XXX 5-6-4	B+1 XXX 1-2-4	B+1 XXX 1-2-4
5-6-4	6-7-4	5-6-4	5-6-4	0-0-3*	5-6-4	1-2-4	1-2-4

B+1 XXX 1-2-4	B+1 XXX 1-2-4	B+2 XXX 3-4-3*	B+3 XXX 1-2-4	B+3 XXX 1-2-4	1619 0-3-0*	1622 0-3-0*	2117 0-3-0*
1-2-4	1-2-4	3-4-3*	1-2-4	1-2-4	0-3-0*	0-3-0*	0-3-0*

2314 0-3-0*	2616 0-2-0*	A Czar Takes Command	B Czar Reforms	C Allied Offensive	D Major Allied Offensive	E Isonzo Offensive	F Russian Defeat in Caucasus
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G Russian Victory in Caucasus	H Allied Victory at Gallipoli	I Italy Neutral	J Austrian Offensive in Italy	K Verdun	L Peace, Bread, Land	GAMIE TURN	B+3 XXX 4-5-4*
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This is a supplement to Issue 25

2816 0-2-0*	2820 0-2-0*	2908 0-3-0*	2913 0-1-0*	3015 0-1-0*	3017 0-2-0*	3123 0-1-0*	3225 0-1-0*
2516 XXX 5-6-4	2417 XXX 5-6-4	2417 XXX 5-6-4	2417 XXX 5-6-4	3123 XXX 5-6-4	3224 XXX 5-6-4	3224 XXX 5-6-4	3225 XXX 5-6-4
2423 XXX 6-7-4	2523 XXX 5-6-4	2623 XXX 5-6-4	2423 XXX 6-7-4	2723 XXX 5-6-4	2823 XXX 5-6-4	2923 XXX 5-6-4	3023 XXX 5-6-4
3226 XXX 5-6-4	3227 XXX 6-7-4	3327 XXX 6-7-4	3328 XXX 5-6-4	2723 XXX 5-6-4	2823 XXX 5-6-4	2923 XXX 5-6-4	3023 XXX 5-6-4
2 XXX 5-6-4	2 XXX 6-7-4	2 XXX 2-3-6	2 XXX 2-3-6	2 XXX 6-7-4	2 XXX 6-7-4	2 XXX 6-7-4	2 XXX 6-7-4
3 XXX 6-7-4	3 XXX 5-6-4	5 XXX 6-7-4	5 XXX 3-4-3	5 XXX 3-4-3	5 XXX 5-6-4	7 XXX 5-6-4	7 XXX 3-4-3
10 XXX 3-4-3	10 XXX 3-4-3	13 XXX 6-7-4	13 XXX 3-4-3	14 XXX 7-7-4*	14 XXX 7-7-4*	14 XXX 2-2-6*	15 XXX 4-5-4
REG XXX 4-5-4	REG XXX 4-5-4	Start Brush Offensive	12-7	8-7	6-7	4-7	2-7

Back to Iraq