The Visualization Of Cartographic Information: A Review Essay Of Six Civil War Atlases

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The Visualization of Cartographic Information: A Review Essay of Six Civil War Atlases


Acknowledgement: This essay would not have been possible had the authors not worked with Professor Edward Whiting Fox, historian, cartographer, geopolitical thinker. This essay is dedicated to his memory. Works under review:

- The Official Military Atlas of the Civil War: Atlas to Accompany the Official Records of the Union and Confederate Armies
  - George B. Davis, Major, U. S. Army; Leslie J. Perry; Joseph W. Kirkley; Calvin D. Cowles, Captain, U. S. Army
  - Richard Sommers, introduction
  - ISBN 0-7607-5044-0

- Maps of the Civil War: The Roads They Took
  - David Phillips
  - ISBN 1-56799-586-1

- Atlas of the American Civil War: The West Point Military History Series
  - Thomas E. Griess, Series Editor

- Atlas of the Civil War: Month by Month, Major Battles and Troop Movements
  - Mark Swanson
  - Athens, Georgia and London, 2004 University of Georgia Press

- Great Maps of the Civil War: Pivotal Battles and Campaigns Featuring 32 Removable Maps
  - William Miller, Rod Gragg, foreword and additional text
  - ISBN 1-55853-999-9

- Atlas of the Civil War
  - Steven E. Wadsworth and Kenneth J. Winkle
  - James McPherson, forward and introduction

Military strategy and tactics are products of the mind, where every effort is directed toward clarity, but wars are fought on the ground, where everything moves toward fog. It is a military axiom that no plan survives the first shot, but it is equally axiomatic that prior contingency planning is essential to military success. Six military/political atlases, five recently compiled and one a reprint of the atlas accompanying the nineteenth century Official Records of the Union and Confederate Armies (O.R.A.), have appeared to aid the student and
the specialist connect the plans and theories of strategy and tactics with the realities on the ground where the war was fought. **The Six Atlases**

The six atlases emphasize both shared and divergent aspects of the war, bringing different points of view and scholarly goals to the same conflict. All, however, seek to bring an understanding of the war that can only come from cartographic representation, and, while each atlas is complete in itself, as a group they illustrate the multi-faceted political, strategic, and tactical elements of the Civil War. The earliest, and in many ways still the definitive atlas, is *The Official Military Atlas of the Civil War* *The Official Military Atlas* was designed to accompany the *Official Records* (O.R.A.) there was no need for additional commentary; rather the atlas was to be a compendium of visual representation of the war, needed for understanding but omitted from the previous volumes. Its maps and drawings show what was known and what was not known at the time, making it the premier source both for modern maps of the war and for a grasp of visual information commanders in the field could consult. The atlas begins with six drawings by Major Robert Anderson giving a panoramic view of Charleston harbor as seen from Fort Sumter in April, 1861. These drawings are followed by military maps of battles, campaigns, and theatres of war, most made during the conflict, others shortly afterwards. *The Official Military Atlas* could not reprint every map or sketch made during the war, but it does include a generous selection of maps from both sides. From the confederacy, the atlas includes over 100 maps and sketches made by Jedediah Hotchkiss for Jackson and Lee, and it prints more than a dozen drawn by Major John Weyss for the Amy of the Potomac. The selection in this atlas illustrates every significant military action of the war. Beyond maps and sketches, *The Official Military Atlas* contains drawings of types of fortifications, of cannons, of uniforms worn by the soldiers on both sides, of flags, and of road and rail transportation. It also includes drawings of forts, guns, towns, and battlefields that were part of contemporary military reports. This atlas presents a comprehensive visual representation of the war, and, as part of the O.R.A., it is the place where scholars of tactics and strategy begin their investigations. *The Official Military Atlas* is one that all students of the war must consult. Among the modern atlases, the logical place to begin is with David Phillips' volume, *Maps of the Civil War: The Roads They Took* (1998, 2001). Almost all of the maps in this book are from the nineteenth century, and most are contemporary with the actual events. The atlas includes maps, from both sides, that did not appear in *The Official Military Atlas*, but are well used here to illustrate the course of battle and campaign. *Maps of the Civil War* is not, as one might surmise from the title, an examination of the crucial
arteries of water, rail, and road transportation during the war. It is, rather, an illustrated military atlas with a substantial complement of commentary which is most useful when devoted to the maps themselves. The maps properly form the heart of the atlas, and carry the story of the war with the major strength of Phillips' atlas being his selection of maps, which, to quote Stonewall Jackson, is highly commendable. The Maps of the Civil War begins with an introduction on the political situation leading up to secession and war, including a map, from April/May, 1861, which showed the probable theatre of war to be eastern Maryland. This map implied the war would be fought over the border states, would be short, and that secession would probably stand, regardless of the statements made by President Lincoln. This view of the Civil War would later seem to have been somewhat limited, but the map was not inappropriate. The Chesapeake and Potomac areas would indeed see the first strategic victory of the war when Union troops secured Baltimore in May, 1861, keeping Maryland in the Union and preserving the lines of communication linking Washington to the northeast. The map had presented an accurate geo-strategic prediction for the first month of war, not an insignificant accomplishment in a nation unused to such exercises. This atlas divides the war by year rather than by theatre of conflict, presenting the war chronologically, not strategically as it would later be studied. The chapters on the five years include commentary on battles and campaigns, setting them into the context of ongoing war. Phillips has included several maps by Stonewall Jackson's topographical engineer, Jedediah Hotchkiss, whose remarkable line sketches and drawings were often done while on horseback, as well as maps by the Union engineer, Major John Weyss. The emphasis on contemporary maps gives an additional sense of how the war was seen and understood by those fighting it. Phillips gives pride of place to the battles and campaigns in the east, meaning Virginia, Maryland, and Pennsylvania, which fits the contemporary opinion that this was the primary seat of war. The chapter on 1861 centers on Bull Run (First Manassas), which was fought only twenty-five miles or so from Washington. At the time it attracted a great deal of horrified Union and delighted Confederate attention, far more than was given to the political/military campaigns and activity in Maryland, Kentucky, Missouri, and western Virginia. The chapter on 1862 continues to follow contemporary wartime psychology, and gives great weight to the Valley, second Bull Run, Antietam, Fredericksburg, and the Seven Days, which was Lee's first field command. Phillips does not omit Grant's move south, from Forts Henry and Donelson to Shiloh and Corinth, nor does he ignore the campaigns in Tennessee and Kentucky. Sustained Union victory in the west, including the
capture of New Orleans, turned the geo-strategic balance in favor of the Union, but proved cold comfort to Union politicians who saw Lee and Jackson as invincible while McClellan, Pope, and Burnside were not. The Mississippi valley seemed far from Washington, and throughout 1862 the Union conviction deepened that only victory in the east over Lee could win the war. With that in mind, voters in the off-year elections in 1862 gave victory to the Democrats. With its choice selection of elegant and beautifully drawn contemporary maps, along with commentary and pictures, Phillips's *Maps of the Civil War* is designed for the informed general reader rather than the military professional. The *West Point Atlas for the American Civil War* (2002) is the polar opposite, designed for a specific pedagogical purpose, teaching the military history of the Civil War to cadets. The present edition is based upon an earlier and more extensive military atlas, also designed for classroom use at West Point, a two-volume *West Point Atlas of American Wars* (1959). Over the years, curricular reform has led to the new version, designed for a course in military history, command, tactics and strategy set in a broad geopolitical context. The current version of the *West Point Atlas* contains modern maps drawn specifically for this volume. They are large, clear, devoid of clutter, easy to understand, and function efficiently as illustrations of the events of the war and the military principles they illustrate. Important natural features - identified by Clausewitz in *On War* - such as woods, water, and elevation complement the human footprint of roads, railroads, buildings, farms, and towns. Troop concentrations and movements are designated by standard military symbols, and are meticulously placed, adding to the clarity of the volume. Since each campaign or battle is illustrated with its own map or maps, the reader may follow the war by chronology or by theatre. The *West Point Atlas* has no illustrations or commentary, just the 58 maps, a fine example of the military principle of economy of force. Going beyond detailed maps of battle and campaign, the West Point Atlas contains several useful general maps of the war, which direct the reader toward the forest and away from the trees. The initial map in the atlas, depicting the principal campaigns, graphically illustrates the two general theatres of the war on land, northern Virginia and west of the Appalachians, and shows as well how bold and imaginative was Sherman's campaign from Chattanooga to Atlanta to the sea. This map also reminds the student of military history that Grant coordinated the two theatres for the campaigns of 1864, bringing, for the first time, the coherence to Union strategy for war on land that had always existed for the war at sea. The second map is equally important, depicting the Confederate rail network, showing that the south did not possess a unified rail system, either in track gauge or in connections
between major cities. In the deep south the roads used a 5' gauge, while North Carolina and Virginia had 4'8.5 tracks, and the two systems were only marginally connected. The Confederacy did not enjoy a complete system of internal communications; instead the south had two systems which were in many places only supplements to river transportation. A third strategic map showed the rapid progress of the Union coastal blockade. When declared in 1861, the Union blockade was mostly a paper proclamation, but during 1862 the Union navy closed off or captured most of the southern ports, excepting Mobile, Charleston, and Wilmington, North Carolina. Together, these maps (2 and 18) illustrate Confederate transportation and communication problems that even victories by Lee could not overcome. While the West Point Atlas is aimed at a specific professional audience, the Atlas of the Civil War: Month by Month (2004) seeks a more general audience, though it has an equally precise focus. It is a geopolitical rather than a military atlas, and its sole cartographic display depicts the political/strategic area controlled by the Confederate government and armies. The maps are all modern and schematic, and there are only two base maps, repeated with the new monthly military situation depicted, though neither contains much topographical detail beyond rivers. One map is an outline of the United States, and the second an outline of the Confederate and Border States. The military details are only sketched in, not drawn in detail, so campaigns are represented by arrows and battles by place names in approximate location. Like Phillips' Maps of the Civil War, this atlas contains a continuing commentary on the course of the war, though it has neither illustrations nor contemporary maps. While covering the same war, the Atlas of the Civil War: Month by Month differs from, more than is similar to, the other atlases discussed. As this Atlas of the Civil War clearly shows the only Confederate hope of controlling the border areas of slavery, indeed, the only realistic Confederate hope of survival, lay in political persuasion and avoiding military conflict. That did not happen. President Lincoln's determination to preserve the Union moved the primary arena of conflict from diplomacy to war, and the Union political, economic and military advantages began to show at once. The high point of the Confederate cause in political/strategic terms came in April-May, 1861. The new Confederacy then held all of pre-war Virginia, most of Missouri, had hopes for Kentucky, and enjoyed strong support in Baltimore and eastern Maryland. During the summer of 1861, the Confederate area of political/strategic control began to erode. Western Virginia slipped largely out of Confederate hands by July, 1861, as did most of Missouri, while Baltimore had been secured even earlier. Victory at Bull Run on July 21, 1861, had the effect only of insuring that the war would continue.
and become more destructive; it had no impact on the continuing loss of political/strategic space by the Confederacy. As the war continued into 1862, Union gains expanded along the periphery of the Confederacy, as control over the coast, New Orleans, and the northern Mississippi valley passed to the Union. Lee's stunning victories in northern Virginia made 1862 the northern season of discontent, but not of strategic defeat. The next year, Union gains west of the mountains and in the Mississippi valley would continue, and the Confederacy would be cut in half. The great merit of this *Atlas of the Civil War* is to show the continual shrinkage of Confederate political/strategic control, a trend that victory in particular battles could not halt. The *Atlas of the Civil War* shifts the cartographic scale of analysis from the local, such as raids and skirmishes, battles and sieges, and even beyond campaigns and theatres to a more distant perspective that examines the geopolitical and geo-strategic dilemmas faced by Southern commanders and politicians as the territory over which battle could be offered continually shrank. The atlas divides the conflict into seven general periods, beginning with the Opening Stalemate from Fort Sumter through the end of 1861, a period which was clearly not a stalemate but a time of initial and permanent Union strategic gains in the border areas of slavery. The second period is entitled First Federal Advances, covering the months from January through June, 1862. Although McClellan was defeated by Lee in the Seven Days, and Jackson drove Union forces out of the Shenandoah Valley, Union gains continued along the Atlantic coast, in the west, and in the Mississippi Valley. The third period is styled a Southern Revival, in the summer of 1862, though this is based almost exclusively on events in Virginia. The fourth phase is called Equilibrium, from October, 1862 to June, 1863, again largely based upon victories by Lee. The fifth phase is Second Federal Advances, from July to December, 1863, and included Union victories at Vicksburg, Chattanooga, and Gettysburg. From January to April, 1864, is a sixth phase, War on the Peripheries, essentially a prelude to the strategically coordinated campaigns from May, 1864 through April, 1865, called the Final Federal Advances as the seventh and last phase of the war. In all phases, however, the Union made geopolitical gains and the Confederacy became smaller and more vulnerable. These phases of the war appear primarily in terms of lines on the map of the Confederacy indicating the limits of southern control. The lines are only approximations, and are schematic rather than topographically precise. The maps of the months after July, 1863, show a wide swath of Union control in the Mississippi valley; though in many places the Union dominated only the river itself. Moreover, the line dividing approximate Union from approximate Confederate control presents the
image of a continuous front in the style of the World Wars, while in reality there were large gaps between the armies and even larger areas where there was little fighting, though often a great deal of foraging. Not until the campaign in 1864-1865 from the Wilderness to Appomattox could there be said to be a defined military front line, and that was not permanent until the siege of Richmond and Petersburg. A sharp geopolitical focus brings to this atlas both insights and geo-strategic inaccuracies. A third Civil War atlas with a sharp, limited, and specific focus is William Miller's *Great Maps of the Civil War* (2004). It differs in format from the other volumes here considered, as it contains 32 removable maps, folded and tucked in pockets throughout the atlas. This permits large maps to be conveniently contained in a standard-sized book, without having to shrink them so severely as to make them unreadable. It differs again in format by following the course of the war through selected battles and campaigns, making no claim to complete coverage. Beyond differences in format, this atlas has a focus the others do not as it emphasizes the map-makers and the maps themselves rather than the tactics, strategy, or course of the war. This is an atlas about mapping, limited to the Civil War, and it falls into the area of cartographic scholarship currently represented by Jeremy Black' *Maps and History: Constructing Images of the Past* (New Haven: Yale University Press, 1997). The heroes who emerge in the *Great Maps of the Civil War* are the map-makers rather than the generals, and the basic thesis is that the commanders were often no better than the maps they had. When the war began, a good set of maps existed only for the coastal regions, the product of two generations of topographical engineers who worked for the U.S. Coast Survey. Most of the engineers working for that small government department in 1861 remained with the Union, and they were of substantial assistance to the blockading navy and the Union efforts to capture southern ports and tighten the blockade. Miller also discusses the work of General Jeremy Gilmer, who organized and commanded the Confederate Engineer Bureau, which made maps as well as built roads and bridges. Equally important for the Confederate cause was Jedediah Hotchkiss, who, though probably remaining a civilian, was the leading topographical engineer for Stonewall Jackson and, after Chancellorsville, worked for Lee. Miller also included commercial map making during the war, primarily a northern enterprise, which illustrated the course of the war and made some cartographer/businessmen large sums of money. Miller includes John Bachelder's panorama of the Gettysburg battlefield as the endpapers of this atlas, as it was certainly the most famous single map of any sort from the war. In general, Miller emphasizes the Confederate rather than the Union efforts at cartography which
was both accurate and could be copied in sufficient numbers to reach all the important commanders. The Union effort was much larger, with the Coast Survey producing nearly eighty thousand maps and charts in 1864 alone, and Union maps predominate in *The Official Military Atlas*. But the emphasis is less on side than on function, and this is an atlas in which the cartographer is the vital but unknown hero of the war. A fifth modern atlas, the *Oxford Atlas of the Civil War* (2004), is an elegant and ambitious book, integrating modern maps and charts with contemporary maps, photographs and drawings into a sophisticated economic, political, industrial, and social analysis of pre-war America, the war years, and Reconstruction. The primary effort of the *Oxford Atlas* is to combine graphic representation with commentary about the American fabric into a depiction of the course of the war, this providing a context for the fighting and the outcome. Short chapters, complete with maps, pictures, and charts, illustrate the sectional divide leading up to secession. These include the incidence of slavery, the role of immigration, the value of farmland and agriculture, the expansion of railroads, the growth of industrial production, as well as the political maps of 1860 and secession. This section comprises the first seventy pages of the *Oxford Atlas of the Civil War*, and it presents a clear visual and written summary of the trends during the first eight decades of national history that led toward sectional divergence in society, economy, politics, and political attitudes. The opening section also gives a clear understanding of the relative strengths and weaknesses of each section. Rather than a theory of irrepressible conflict, the *Oxford Atlas* presents a theory of irrepressible and growing sectional differences which might or might not have resulted in armed conflict. The introduction closes with a mention of the cultural heritage of the war, showing maps of battlefield sites across the south, places where monuments and parks combine landscape with myth and memory. In its coverage of the war, the *Oxford Atlas* examines battles and campaigns as well as covering the changing strategic relationships between the two sides. It covers the war chronologically, moving from theatre to theatre, from campaign to campaign, as the dates dictate. The advance on Richmond in 1864 is interrupted by maps and commentary on Sherman's campaign around Atlanta. The editors have also decided upon full coverage of the war, including secondary campaigns and battles as well as the major ones, and have described military efforts that failed and have sunk into the obscurity of a single road marker. They have, for example, included the battles at Drewry's Bluff, south of Richmond, in May, 1864, where Benjamin Butler squandered a genuine, though fleeting, opportunity to take either Richmond or Petersburg before Lee could arrive to defend them. By offering this level of
coverage throughout the entire atlas, the editors have not only made this atlas the most detailed and complete of the modern editions, but they have also enabled the sophisticated reader to recapture the contingent and surprising aspects of warfare. The *Oxford Atlas* describes the war with extensive commentary and contemporary photographs and drawings as well as with maps. Having opted for an extensive coverage of the war, the editors needed outstanding commentary to place the fighting in its strategic and political context. They have succeeded admirably, with texts accompanying each battle and campaign that are sufficiently detailed to explain what happened and why it mattered. The maps themselves are all modern, executed for this volume, and they are clear and detailed. The atlas opens coverage of the war itself with a superb map of Charleston harbor, including the location of forts, batteries, swamps, and rivers, showing that Fort Sumter was a position which could not be held militarily, nor surrendered politically. In its final section, the *Oxford Atlas* examines the former Confederacy during Reconstruction. Beginning with Lincoln's second inaugural address in March, 1865, the atlas describes the political geography of Reconstruction, including the Union military occupation. The atlas includes maps and commentary on southern post-war educational systems, on economic recovery, and on the return of political and institutional control to southern conservatives. The maps clearly illustrate that Reconstruction succeeded legally but generally failed socially, and that the solid south went beyond voting patterns and included society, economy, and education as well. The Civil War included not merely fighting; it included victory and defeat as well. Of the new atlases, the *Oxford Atlas of the Civil War* has the most general use for the student and the interested reader. It lacks the beautiful antique maps used in *Maps of the Civil War*, which help make that atlas so visually attractive, but the modern maps are easier to read and understand. It has greater variety in its maps than does *The Atlas of the Civil War*, and shows battles and campaigns to greater advantage. It includes economic, social, cultural and political maps, along with the military, and adds explanations and comments to them, making it more useful than the *West Point Atlas* for a civilian audience. It has a greater political and military coverage than *Great Maps of the Civil War*. Though it is the size of a coffee-table book, the *Oxford Atlas* goes far beyond decoration. *Military Maps: Functionality, Limitations, and Strategic Opportunities* An historical atlas is a compilation of maps. The selection of maps and what they depict rests on the editor's interpretation of the events, which at times may be made explicit but often remains, as the historian Jeremy Black (Mapping the Past: Historical Atlases, *Orbis*, Spring 2003,
http://www.fpri.org/orbis/4702/black.mappingpast.html) has explained, implicit. Agreement among historians regarding the importance of some battles and the expectation that cartographers should aspire to accuracy in depicting the terrain and the movement of troops produce shared aspects among the atlases under consideration, though variation in interpretation has created significant divergence in the selection of maps, their thematic content, their scale and detail, the periodization of their presentation, and visualization. A map functions as a symbolic depiction of action through space and as part of an interpretation of an overarching narrative. It is a graphic summary of current information and points the direction of future inquiry. In these six atlases the narrative is primarily a military one, depicting moments of battle and movement and the direction of campaign and theatre. With good maps in sufficient number, it is possible to reconstruct the narrative from troop movements in battle and campaign to the wider context of society, economy, and politics. The maps become, in se, the primary instruments of reasoning as explained by Edward Tufte in *The Visual Display of Quantitative Information* (Cheshire, CN: Graphics Press, 1983). When drawn well, maps show the relevant spatial data with the minimum necessary distortion, and move the reader toward other maps of the same battle or campaign depicting the military situation later in a temporal and spatial sequence. Moreover, maps of one battle lead to maps of later battles, extending the temporal and spatial sequence beyond a single hour or day and from one locale to the next into the strategic and tactical consequences of time and place for an entire campaign or theatre of operations. Although each map depicts a military moment frozen in time, such as a siege or a battle, the running sequence of maps carries the narrative forward on paper as it unfolded through space and in history. Maps physically depict a static moment, but encourage a dynamic and comparative rather than a static analysis of military utilization of space. This moment may be as brief as in a raid or a skirmish during a battle or as prolonged as an entire campaign. The extraordinary comparative qualities associated with placing one map next to another emerge out of the reader's ability to embed fleeting events, i.e. raids or battles, within the temporal and spatial context of an entire campaign. Depictions of the battle- field permit the reader to appreciate how strategic thought promotes surprising deceptions and feints, and how such surprises sometimes succeed, but always threatened to drain men and materiel away from where a decisive engagement is anticipated. If well done, historical atlases of military and political affairs suggest not only the environmental determinants of success such as the presence or absence of a unified railway system, but also how military and political leaders utilize the environment in
surprising and creative ways to overcome their enemies and adversaries. Maps perform these sophisticated functions with efficiency and clarity because they illustrate complex ideas rather than simple ones, and complexity is always difficult to grasp and visualize from description alone. Maps lead irresistibly toward multiple options in their representation of time, space, and opportunity for human activity. After viewing a battle map, the commander then or the reader now is led toward questions about terrain further down the road, about future troop movements, about the geo-tactics of the rest of the campaign. Maps, consequently, multiply options, possibilities, and information beyond what can be contained in mere directions, which are linear only, whereas maps are panoramic, giving spatial and narrative context for actions not yet taken but at the time both possible and plausible. One recalls the image of General Grant after the defeat at the Wilderness to begin the 1864 campaign, sitting on horseback, covered with dust, pointing to the road that led southeast to Spotsylvania and toward Richmond. He had the military map of northern Virginia in his head, and he knew Lee did too, and he knew where the next battle would be, and he wished to get there first. After repulse at Spotsylvania, Grant again took the road to Richmond, choosing the route that his predecessors had thought could only be taken following victory. The student of the war can follow via maps the changing nature of war in northern Virginia in 1864 from discrete battles to continuous campaign. Because of the imperatives of scale, a map held in the hand depicts in inches a space that extends far over the horizon. Maps summarize and organize the terrain they depict, favoring the general over the local, favoring one element of nature or the human footprint over another. A topographical map depicts elevation, a road map shows routes, an historical map includes county court houses, covered bridges, and old towns. In all cases, maps depict the woods rather than the trees; they clarify by summary and focus. In command situations, maps are essential as tools for strategic planning, as in Jackson's flanking movement that won the battle of Chancellorsville in 1863, or in Jackson's directions to Jedediah Hotchkiss to make detailed maps of central Pennsylvania prior to Lee's invasion. For small units, deep in the fog of war, maps show where one is and how to get out. In after-action reports, often called the warm wash-up, maps can clarify the fighting, subsuming small unit details into regimental and brigade maneuvers, presenting a battlefield that seems clearer and more purposeful than it ever was at the time, as well as showing that every commander did the right thing, regardless of outcome. For historical study, contemporary maps perform a further function of summary and focus, by highlighting rather than occluding error and confusion. Military maps may sometimes suggest that
generals have access to an Archimedean vantage point, viewing a battle and campaign from far above the actual terrain, and from a perspective in which the conflict is perceived objectively and in its entirety. Maps drawn at the time of battle provide a necessary co