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The Cartography of Slavery and the Authority of Statistics

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Over the west staircase of the Senate wing of the U.S. Capitol hangs an iconic image of American history, entitled *First Reading of the Emancipation Proclamation of President Lincoln* (see figure 1). Painted by Francis Bicknell Carpenter in 1864, it portrays Lincoln's announcement of emancipation to his cabinet in July 1862. The painting immortalized a particular version of events and a narrative of Lincoln as the Great Emancipator which only grew over the next century. To create the painting, Carpenter spent six months in the White House, and he recorded his experience in a memoir published just after the president's assassination. In 2005, the painting's cultural currency was renewed when it appeared in lithographic form on the cover of Doris Kearns Goodwin's bestselling *Team of Rivals*. Goodwin uses the painting to imagine that moment when Lincoln, surrounded by battlefield maps on racks, in folios, and leaning against the walls, transformed the war into a moral contest. In Goodwin's telling, as in Carpenter's painting and American civic memory, Lincoln's decision is treated as a defining moment of moral courage.¹

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1. Doris Kearns Goodwin, *Team of Rivals: The Political Genius of Abraham Lincoln* (New

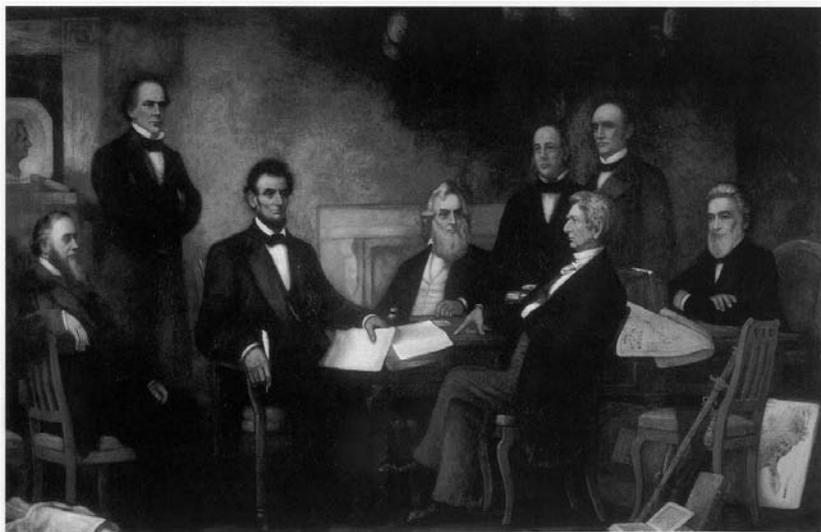


Figure 1. Francis Bicknell Carpenter, *First Reading of the Emancipation Proclamation of President Lincoln* (oil on canvas, 1864), U.S. Capitol, Washington, D.C. Carpenter painstakingly reproduced the map in the lower right corner of the painting after he noticed that it captured Lincoln's attention.

Within this painting lies a detail that has gone largely unnoticed but provides a window onto the production and representation of knowledge in the nineteenth century. In the lower right corner of the painting rests a map of the southern states, which Carpenter deliberately and painstakingly rendered for its contemporary importance. The map was first published in September 1861, measured approximately twenty-seven by thirty-three inches, and was drawn on a scale of 1:3,000,000, or forty-seven miles to the inch (see figure 2). This map of the southern states used figures of the 1860 census to illustrate the population density of slavery in graphic terms and was the first American effort to do so. By using a new technique of statistical cartography, the map not only conveyed the extent of slavery but translated the vast data of the census into a compelling and comprehensible picture. This type of map represents a turning point in the graphic presentation of

York: Simon & Schuster, 2005), 464; Harold Holzer, Gabor S. Boritt, and Mark E. Neely Jr., "Francis Bicknell Carpenter (1830–1900): Painter of Abraham Lincoln and His Circle," *American Art Journal* 16.2 (Spring 1984): 66–89.

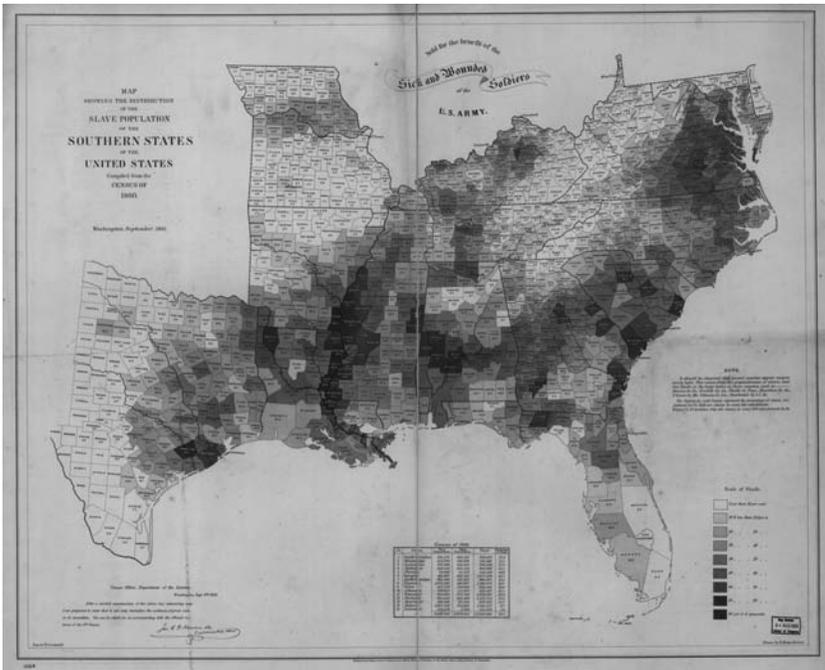


Figure 2. U.S. Coast Survey, *Map showing the distribution of the slave population of the southern states and the United States. Compiled from the Census of 1860.* This map of the slave population from September 1861 was one of the first to translate Census statistics into cartographic form. Geography and Map Division, Library of Congress.

information and initiated a trend of statistical cartography that exploded after the Civil War.²

In his memoir, Carpenter acknowledged the power and appeal of this map, but he had an even more fundamental reason for including it in his portrait. During his extended stay at the White House, Carpenter found the president—on more than one occasion—poring over the map. Lincoln admired it not just for its symbolic power and visual appeal but because it literally allowed him to trace the military’s maneuvers, and to connect those actions to his policy of emancipation. In other words, the map was both a landmark cartographic

2. Susan Schulten, “Mapping American History,” in *Maps: Finding Our Place in the World*, ed. James Akerman and Robert Karrow (Chicago: Univ. of Chicago Press, 2007), esp. 188–96.

achievement and an eminently practical instrument of military policy. Lincoln's own description and use of this map indicates that it reinforced his conception of emancipation as a wartime measure and allowed him to follow the military's ability to destroy one of the Confederacy's greatest assets.

The map of slavery was created in summer 1861 by the U.S. Coast Survey. From 1858 to the early months of 1861, the survey had frantically produced reconnaissance maps of the southern coasts and ports, in anticipation of a military conflict over secession. That this same agency took the time to create a map of the density of slavery at a moment of supreme military and political crisis indicates the significance of this new cartographic technique. That the map was reproduced and copied widely during the war indicates that Lincoln was not alone in appreciating its importance. In fact it is an exceedingly rich resource for understanding the politics of slavery as well as the organization of information in the nineteenth century. On one level, it is a visual and cultural artifact, a window onto the intellectual and political world of 1861. At the same time, it introduced a new way to envision information during the most consequential conflict in American history.

This new form of graphic information depended upon the collection of information brought by the U.S. Census. Stipulated by the Constitution, the first decennial census was taken in 1790, but few congressmen in the early republic considered the census relevant beyond its role in apportionment. As a representative from Virginia, James Madison proposed that the first census classify persons into five categories: free white males under and over sixteen, free white females, free blacks, and slaves; he also asked that the occupation of each working person be identified. Yet no data beyond this was collected; no information existed on the age and sex of either slaves or free blacks. In the early republic, a widened census was simply not valued and was seen by some as an unwarranted intrusion by the federal government. By the 1820s, however, the growing complexity of the economy, along with changing conceptions of the public good and a rising interest in statistics as a scientific tool, encouraged an expansion of the census enumeration data.³

Concurrent with these trends was the rise of abolitionism, which fueled sectional divisions that might be revealed—or even sought—through the census. The Sixth Census of 1840, for example, was the first to gather

3. Patricia Cline Cohen, "Statistics and the State: Changing Social Thought and the Emergence of a Quantitative Mentality in America, 1790 to 1820," *William and Mary Quarterly* 3d ser., 38.1 (Jan. 1981): 35–55.

statistics on mental and physical disorders, which partisans of slavery used to “prove” the higher incidence of illness and crime among free blacks. As Thomas Hietala has shown, annexationists used these “figures” to discredit abolitionists who claimed that westward growth would disproportionately benefit slaveholders.⁴ In 1849, Congress again passed a bill to organize the decennial census, and this time it attempted both to expand its jurisdiction and formalize its procedures. Though not without opposition, Congress established a census board headed by an appointed secretary who would design the schedules of questions, collect and compile the data in the capital (rather than leaving it to representatives in the field), and publish the results. These modifications constitute a turning point, though one that would not be recognized for some time. In fact, the lack of attention paid to this census is reflected in President Taylor’s decision to appoint as its secretary a loyal Whig from Pennsylvania with limited political experience. Joseph Camp Griffith Kennedy came to Washington, D.C., in spring 1849 and immediately began to propose census schedules for congressional approval.

At the same time, the victory of the United States over Mexico brought substantial territorial gains in the West that immediately translated into sectional tension. This complicated matters for Kennedy, for just as his proposed schedules were introduced in the Senate, Congress began heated debate over the series of bills that would form the Compromise of 1850. The census schedules were seen primarily through the lens of sectionalism, and thus the principal controversies centered on the kind of information the Census Office could collect about slaves. Kennedy had proposed not just to ask for the name of the slaveholder and the age and geographic location of the slave but also to include his or her own name, sex, place of birth, color, and whether he or she was deaf, dumb, blind, insane, idiotic, or a fugitive. (One wonders who authored the last question!) It also asked the number of children born to slave women and how many of these had survived. These questions—especially about sex and place of birth—would have allowed Kennedy to make fairly sophisticated projections about the demographic shift of the slave population over time.

4. After this census was published, Congressman John Quincy Adams requested Secretary of State John C. Calhoun to investigate its reputed errors, a nice illustration of the early influence of sectionalism on information. Thomas Hietala, *Manifest Design: Anxious Aggrandizement in Late Jacksonian America* (Ithaca, N.Y.: Cornell Univ. Press, 1985), 27–29, 54, 110. See also Albert Deutsch, “The First U.S. Census of the Insane (1840) and Its Use as Pro-Slavery Propaganda,” *Bulletin of the History of Medicine* 15 (1944): 469–82.

Southern Democrats characterized these proposed inquiries as unnecessary and beyond the scope of the census, not to mention the jurisdiction of the federal government. Perhaps even more worrisome was the possibility that extensive information about *individual* slaves—such as name and number of children, as well as place of birth—might undermine their status as aggregate property. Therefore, southern Democrats proposed to omit the names of slaves, replace them with absolute numbers, and also removed questions about the place of birth of slaves and the number of children born to female slaves. After a significant tussle, the Senate bowed to proslavery sentiment and accepted these amendments. Though the 1850 census schedules were still far more extensive than their predecessors, southerners were able to limit the information collected about slavery. Before the counting had even begun, the census was mired in sectional politics.⁵

This controversy continued with the election of 1852, which turned the Whigs out of the White House. Franklin Pierce quickly replaced Superintendent Kennedy with J. D. B. DeBow, the well-known editor of *DeBow's Review* and an ardent Democrat who had managed the Bureau of Statistics in Louisiana from 1848 to 1851. In this capacity, though without formal statistical training (no such training yet existed), DeBow had begun to think about the census as not simply the collection of data but as the foundation for causal analysis, a sensibility he would bring to the U.S. Census. By the time he assumed this office in March 1853, most of the data collection was complete; he only had to edit the figures that Kennedy's staff had compiled. DeBow's superior political connections also generated funding to publish one of the first expanded census reports, the 1854 *Statistical View of the United States*. The report was full of information, but few Americans would have been able to make sense of this avalanche of data, most of it organized into tables.⁶

The real significance of DeBow's report was its timing. Heady optimism had begun to infuse the study of statistics, manifest in the 1852 founding of the American Geographical and Statistical Society, which attracted business,

5. This discussion of the politics of the 1850 census relies on Margo Anderson's *The American Census: A Social History* (New Haven, Conn.: Yale Univ. Press, 1988), esp. 35–45.

6. The 1854 report recommended the creation of a permanent Census Office, which did not occur until 1902. Paul J. FitzPatrick, "Leading American Statisticians in the Nineteenth Century," *Journal of the American Statistical Society* 52.279 (Sept. 1957): 309. Though DeBow had begun—like Kennedy—as an ardent nationalist, sectional politics took its toll, and as the 1850s wore on he became more defensive about the south, eventually advocating the reopening of the slave trade. See Anderson, *American Census*, 56.

political, and intellectual leaders interested in geography and statistics as a way to amplify American power, primarily in the West.⁷ The society's interest in statistics peaked at the end of the 1850s, when it invited Kennedy to outline his vision before its members. At this point, Kennedy had returned to head the Census Bureau—appointed by Democrat James Buchanan after Congress appropriated census funding in 1858. In his address, Kennedy effusively described the potential of statistics—if put in the right hands—to advance human progress and ameliorate suffering by replacing “vague and unwarrantable ideas” with truth.⁸

Such sentiment spoke directly to the sensibility of the AGSS membership, men of diverse occupations who shared an interest in the practical application of knowledge. To this audience, Kennedy repeatedly argued for the unbiased use of statistics, recognizing the ways they could be manipulated. His discussion of slavery reflected the anxiety provoked by John Brown's recent attempted raid on Harpers Ferry. The much reduced questions on the 1850 slave census schedule had irked antislavery sympathizers in ensuing years, but Kennedy shrewdly applauded this as a decision made for the good of the Union. To “incumber” the schedule with questions about the occupation of slaves would matter none given their status; inquiries about their birthplace would be unreliable; and questions about names, children, or anything else would have stretched the authority of the census, undermined its popularity, and yielded no benefit.

While he defended the simplified and more politically conservative slave schedules, Kennedy still stressed his hope of integrating truth with social responsibility. In this respect he was influenced by Adolphe Quetelet, who had recently pioneered the application of statistics to social problems in France. Quetelet and others stressed the potential of statistics to analyze crime, disease, and poverty, which in part explains why so much of the early discipline of statistics revolves around the study of population. Kennedy was completely won over by this conceptualization of “moral statistics,” which—despite its recent origin—had “accomplished more in the last half century for the alleviation of misery, the prolongation of life, and the elevation of humanity, than

7. Apparently the enthusiasm for statistics at the Society was ephemeral, for by 1871 it had dropped “statistical” from its name.

8. Joseph Camp Griffith Kennedy, “The Origin and Progress of Statistics,” read before the American Geographical and Statistical Society, *Journal of the American Geographical and Statistical Society* 2 (1860): 92–120, quotation on 94.

all other agencies combined—they are the practical workings of an elevated Christianity.”⁹ For Kennedy, statistics was a new way of organizing and understanding information, a path to uncovering natural laws and social patterns that had heretofore remained hidden. To this end he helped organize the first International Statistical Congress in 1853 held in Brussels. There—as well as at the World’s Exhibition in London two years prior—he met with Quetelet, Charles Dupin, and others experimenting with the use of statistics.¹⁰

Despite the growing interest in statistics within the United States, the cartographic display of information using census data was virtually nonexistent.¹¹ Even as late as 1860, the U.S. Census Reports failed to include a single map related to its data. This relative absence of statistical cartography is striking given its simultaneous proliferation in Europe. As early as the late eighteenth century, maps were used as an attempt to trace the spread of yellow fever in the United States. From there, however, the most significant cartographic advances developed in Europe, again catalyzed by the need to explain and thereby control the devastating outbreaks of infectious disease. That disease should be one of the primary reasons for the maturation of thematic cartography reflects the hope that statistics and the organization of information more generally could advance civilization. In this light, Kennedy’s excitement for the moral power of statistics begins to make sense.¹²

The most well-known case of enlightened statistics was the map drawn by John Snow in London, which enabled him to pinpoint the source of the cholera outbreak of 1854. Snow’s map—and the work that preceded it—suggested that the nature of cholera was not miasmatic, but rather tied to the source of drinking water. As Steven Johnson has recently written, the map integrated local knowledge—in this case walking distance from the Broad

9. Kennedy quotation appears in J. K. Wright, *Geography in the Making: The American Geographical Society 1851–1951* (New York: published by the Society, 1952), 47.

10. The 1851 London exhibition has been extensively covered by European historians, but little attention has been paid to the significant number of individuals who converged on London with a specific interest in cartography, geography, and the graphic representation of statistical data.

11. I have found only a few examples of interest in the graphic display of census data prior to the war. See, for example, “Population of the United States,” *Scientific American* 8.1 (Sept. 18, 1852), and *Harper’s New Monthly Magazine* 8 (1853): 264.

12. On the early mapping of yellow fever, see L. G. Stevenson, “Putting Disease on the Map: The Early Use of Spot Maps in the Study of Yellow Fever,” *Journal of the History of Medicine and Allied Sciences* 20 (1965): 226–61. On thematic cartography generally, see Arthur Robinson, *Early Thematic Mapping in the History of Cartography* (Chicago: Univ. of Chicago Press, 1982).

Street Pump—to a bird’s-eye view of the neighborhood. The extrapolation of this single class of information onto the traditional street map allowed Snow to see connections that were otherwise lost; the key was to put less information on the map, not more.¹³ By the 1850s, this type of thematic map had become commonly used to explain not just the incidence of disease in England, but also crime, illiteracy, poverty, and sanitation. That this new cartographic genre grew from the need to explain the problems of Victorian life anticipates our slave map, which “explained” secession in geographic terms.

In the United States, the importance of statistical cartography becomes clear if we examine popular cartography within the context of rising sectional tensions. By the 1830s, lithographic printing had facilitated the rapid production and dissemination of cartography. Despite this technological advance and the growth of thematic cartography in Europe, census officials produced no maps in the antebellum period. In fact, the only map included in DeBow’s 1854 report—*The Statistical View of the United States*—was a crude rendering of the nation’s major geographic regions, which included none of the data yielded by the census itself. This failure to create maps based on census statistics is even more puzzling considering that other federal bureaus had experimented with statistical maps up to that point. Topographical and nautical maps had incorporated contour lines and other techniques to distinguish different grades as early as the 1810s, and Matthew Fontaine Maury used tints to compile his wind, current, and whaling charts for the Navy in the early 1850s. At the same time, the U.S. Coast Survey had adopted new shading techniques to represent topography. Census superintendent Kennedy admired the use of census data to map yellow fever and other epidemics in the American South. Yet he and the Census Office made no effort to experiment with maps, and the most impressive attempts to map U.S. Census data were actually made in Europe.¹⁴

DeBow’s 1854 report of the census had circulated internationally, giving German cartographer August Petermann the opportunity to translate this mountain of data into visual language. In 1855 Petermann published the

13. Steven Johnson, *The Ghost Map: The Story of London’s Most Terrifying Epidemic—and How It Changed Science, Cities, and the Modern World* (New York: Riverhead, 2006), 191–201. See also Tom Koch, *Cartographies of Disease: Maps, Mapping, and Medicine* (Redlands, Calif.: ESRI Press, 2005).

14. Herman Friis, “Statistical cartography in the United States prior to 1870 and the role of Joseph C.G. Kennedy and the U.S. Census Office,” *American Cartographer* 1.2 (1974): 131–57. On Kennedy’s admiration of Barton, see his “Origin and Progress of Statistics.”

first atlas in his series that showcased exploration and geographic research from around the world. In this volume, Petermann made the first attempts to translate the 1850 Census into cartographic form, including a map that used shading to indicate the average population of blacks in each state and territory. This was the first attempt to map slavery based on the census, which almost certainly inspired the Coast Survey's slavery maps. Petermann also used shading to map the distribution of Native Americans in the West and was the first to identify the relative size of cities through graduated circles.¹⁵

Petermann was particularly keen to map the U.S. Census, and his liberal orientation was reflected in his cartographic subjects. He wrote that the "life-germ" in the United States—the areas of growth—lay within non-slaveholding states, demonstrated by a map of "intellectual culture" that used census data on the distribution of libraries, universities, and circulation of newspapers and magazines. Petermann also emphasized the difference in literacy and public school education between slave and non-slave states and the appalling laws that forbade teaching slaves to read and write. His progressive politics were shared by many fellow German cartographers who immigrated to the United States in the antebellum decades, some of whom profoundly influenced the design and use of maps in the second half of the nineteenth century.

No thematic cartography comparable to that of Petermann existed in the United States in the 1850s.¹⁶ But the geopolitical upheavals of the decade produced a wave of political maps in the North, many of which used data from the Seventh Census to make a case against the spread of slavery. In 1854 Congress passed the Kansas-Nebraska Bill, which overturned the Missouri Compromise and opened the possibility of slavery's expansion into the interior. This inadvertently created a new population of antislavery advocates in the North, many of whom abandoned their Democratic and Whig identities to join the new Republican Party. The territorial changes wrought by the act were uniquely suited to cartographic illustration, especially in the hands

15. Dr. A. Petermann, *Mittheilungen aus Justus Perthes' geographischer Anstalt über wichtige neue Erforschungen auf dem Gesamtgebiete der Geographie* 1 (1855). Table 11 maps the average population density of slaves in each state and territory based on the figures from the 1850 Census: *Volks-Dichtigkeit der Sklaven im J. 1850—Tafel 11*. I am grateful to Derek Holmgren for his translation of Petermann's atlas and commentary.

16. Significant progress had been made, however, in mapping winds, rainfall, and temperature in the 1850s. See Robinson, *Early Thematic Mapping*.

of anxious northerners. On January 24, the newly organized Independent Democrats—led by Salmon P. Chase—urged fellow northerners to “take your maps” to recognize just how vast a region the Act opened to slavery. “The very heart of the North American continent,” he argued, was in question.¹⁷

Days later, about three thousand gathered at the Broadway Tabernacle in New York City to protest the act. There, George Colton presented a giant map that shaded the Louisiana Territory to indicate the potential extension of slavery. In his rendering, the national distinction between slave and free no longer fell along a north-south axis; instead, slavery now reached from the south to the northernmost border of the Union, violating the long-standing line of the Missouri Compromise. This massive, dramatic map was the centerpiece of the meeting, and by extending slavery north and west, it characterized the Kansas-Nebraska Act as a radical departure from the existing geography of the Union. Speaker after speaker used the map to galvanize opposition to an act that betrayed the political contract of the Missouri Compromise, which itself represented a decision that the Founders intended slavery to erode rather than grow.¹⁸

Colton quickly adapted his map for publication in newspapers, which prompted several other replicas over the next few years (see figure 3). Colton’s map startles the reader by virtually encircling the Northeast and upper Midwest with slave and potential slave states and separating them from the far West altogether. Only upon close inspection is it apparent that slave states are shaded differently from the territories, but given contemporary anxieties, such confusion was perhaps deliberate.¹⁹ The editorial accompanying the map in the *New Hampshire Statesman* offered to distribute the map widely in order to organize opposition to this “monstrous iniquity.” Openly alarmed, the editors argued that these exceptionally fertile new territories needed only a small but vocal minority of slaveholders to turn them into slave states.

This initiated a series of similar politically charged maps drawn to mobilize opposition to the Kansas-Nebraska Act. The *New York Tribune* published

17. J. W. Schuckers, *The Life and Public Service of Salmon Portland Chase* (New York: D. Appleton, 1874), 141; David M. Potter, *The Impending Crisis: 1848–1861* (New York: Harper Perennial, 1976), 162–64.

18. “Nebraska Territory! Defence of the Missouri Compromise. Protest against Its Violation. Great Meeting at the Tabernacle. Citizens of New-York in Council,” *New York Daily Times*, Jan. 31, 1854.

19. The map appears in the *New Hampshire Statesman*, Apr. 1, 1854, issue 1714, column C; it was originally published in the *New-York Independent*, drawn by George Colton.

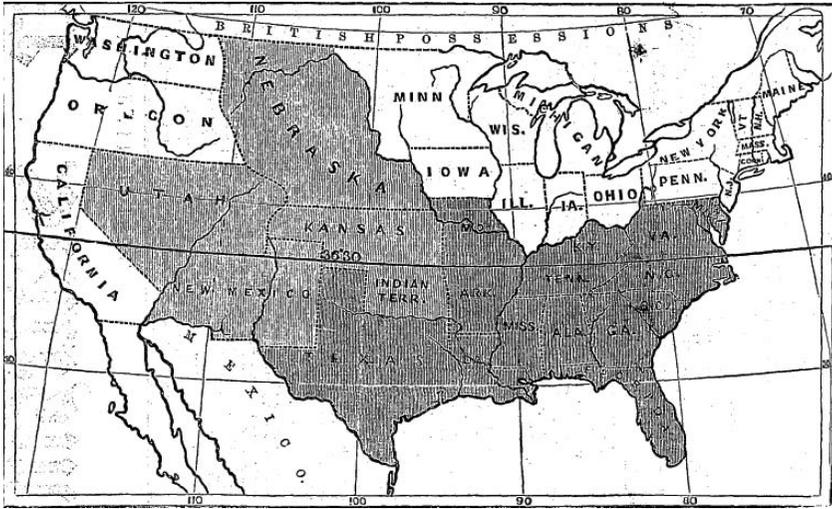


Figure 3. George Colton's map of the Union, published immediately after passage of the Kansas-Nebraska Act in 1854, emphasizes the geopolitical encirclement of the northeast made possible by the doctrine of popular sovereignty. Originally published in the *New-York Independent*.

census figures and a map designed by John Jay to demonstrate the slave-power conspiracy, a “small but iron-willed oligarchy” that ruled the South. Once the statistics were laid onto a map, Jay argued, the case was undeniable:

Now look on the map, blackened by slavery, and you will see that Kansas is the key to the large territory lying to the west of it, the boundless regions of Utah and New Mexico, extending hundreds of miles till they meet the eastern boundary of California. Is it not clear, that if we lose Kansas we shall in all probability lose not only the Indian Territory lying to the south of it, but these vast territories stretching to the westward, and large enough to make more than six States of the size of Pennsylvania?²⁰

Jay concluded with an impassioned plea to support John C. Frémont and the Republican Party in the election of 1856.

20. John Jay, *America Free; or, America Slave: An address on the State of the Country* (New York: Office of the New York Tribune, 1856), 9.



Figure 4. Reynolds's *Political Map of the United States* (1856) used both statistics and geography to project the growth of slavery into the West. Maps such as this were used in John Frémont's campaign of 1856. Geography and Map Division, Library of Congress.

A more sophisticated case for the Republicans was made in the “Political Map of the United States” (see figure 4). This 1856 campaign map used the Kansas-Nebraska Act to manifest the slave-power conspiracy and projected that power into the future. Even Hinton Helper—no Republican—used the map and the statistics behind it to establish the comparative economic weakness of the South. In railroad construction, manufacturing, agricultural production, and the like, Helper argued, the South was hindered by slavery. Significantly, Helper's use of the 1850 Census figures emerged at the height of the sectional crisis and did not go unchallenged. *New York Herald* editor James Gordon Bennett, as well as many southerners, charged Helper with manipulating statistics for political purposes and attempted to use those



Figure 5. Scottish mapmaker A. K. Johnston began to differentiate areas of slavery’s growth and decline in his *Map of the United States* (1857). American maps, however, had yet to achieve this level of sophistication. Geography and Map Division, Library of Congress.

same figures to illustrate the degradation of free labor. “Moral statistics” could be interpreted in a variety of ways.²¹

Europeans mapped slavery with slightly more nuance. A. K. Johnston, the venerable Scottish cartographer, had—like Petermann—begun to experiment with thematic cartography in the 1850s. Johnston’s “Map of the United States” looks similar to those shown above but included an attempt to differentiate states exporting slaves in the Upper South from those importing slaves to the Lower South (see figure 5). This knowledge was itself a product of the 1850 census, which—though it did not inquire about the birthplace of

21. Hinton Helper, *The Impending Crisis of the South: How to Meet It* (New York: Burdick Bros., 1857), chap. 1. Another attempt to map the injustice and shock of the Kansas-Nebraska Act for northern voters in 1856 can be found in The Rocky Mountain Club, “Political Chart of 1856, with a Comparative Statistical View of North and South,” <http://lincolnat200.org/items/show/166>.

slaves—provided aggregate figures on the slave population within different states. Thus, Europeans were not only the first to incorporate census figures into thematic cartography, but they were also the first to map the trajectory of slavery based on those figures.²²

On the eve of the Civil War, then, Americans would have been familiar with maps that distinguished free and slave states and identified areas of the peculiar institution's growth and decline. Someone like Joseph Kennedy would have been aware not just of these commercial maps but also of the intellectual underpinnings of thematic and statistical cartography.²³ This sets the context for two remarkable maps published during the first few months of the Civil War, which made use of the Eighth Census. In retrospect, Kennedy's effusive address to the AGSS regarding the promise of statistics for the future of the Union reads almost as if he recognized the rising tide of sectional violence could not be reversed.²⁴ No sooner had he arranged for the enumeration of the census than Lincoln's election gave proslavery southerners a reason to secede. By April of 1861, eleven states had formed the Confederacy.

Then in June, the commercial lithographer Henry S. Graham printed a revolutionary new map drawn by the U.S. Coast Survey that depicted the population density of slaves in Virginia (see figure 6). By September Graham had issued a second map, this time covering the density of slaves in all the southern states (see figure 2). Neither map identifies the Coast Survey as its source, but both include the name of Edwin Hergesheimer, who had worked for the survey since the 1850s and in 1861 was the head of its drafting division. Under Superintendent Bache, the Coast Survey had since 1858 redoubled efforts to map areas that might become central to a naval war, including the Delaware and Chesapeake Bays, the important rivers of Virginia, the southern coast, the Mississippi River, and the Texas coast. He even recalled surveyors from the West Coast so that the agency could devote itself to the impending war. This makes the statistical maps of the slave population even

22. *Map of the United States* (1857), engraved by W. and A. K. Johnston, Edinburgh.

23. Friis, "Statistical Cartography," 131–33.

24. In May 1860, just months after Kennedy's address to the AGSS, the problem of race again surfaced in relation to the science of statistics. Martin Delany, an ardent student of statistics and geography, was invited to attend the International Statistical Congress in London. He did not address the Congress, but his formal introduction was enough to spark the exit of two of the three members of the American delegation. See Robert S. Levine, *Martin R. Delany: A Documentary Reader* (Chapel Hill: Univ. of North Carolina Press, 2003), 358–60.

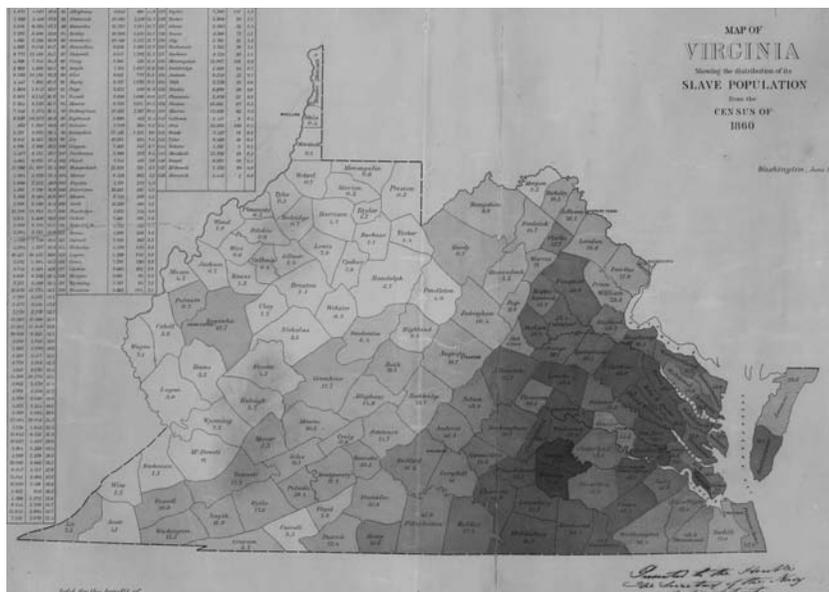


Figure 6. U.S. Coast Survey, *Map of Virginia Showing the Distribution of Its Slave Population from the Census of 1860*. The Coast Survey also produced this map of slavery in Virginia in summer 1861, probably to influence the ongoing debates that would ultimately lead to the creation of West Virginia. Geography and Map Division, Library of Congress.

more interesting; these were atypical for an agency focused on hydrographic surveys, and they required far more time and expertise than the relatively crude sectional maps of the 1850s.²⁵

This decision to map slavery in the midst of the secession crisis makes sense if we consider the role that German cartographers played in the Coast Survey, the changing techniques developed by the Survey at the time, and the politics of secession itself. Hergesheimer was part of an elite corps of cartographers who had been exposed to the pioneering work of Petermann and his contemporaries in Europe. Like many others, he came to the United States after the failed liberal revolution in 1848, and he brought his cartographic expertise to the Coast Survey. Perhaps as a result of this new infusion of immigrant talent, the Coast Survey made crucial changes to its production of maps in

25. Bache was also a member of the Blockade Strategy Board, a group that met secretly in summer 1861 to plan naval strategy along the Confederate coast. I am deeply indebted to John Cloud for sharing his extensive knowledge of Bache and the Coast Survey in this period and for notifying me of the agency's role in producing Hergesheimer's maps of slavery.

the 1850s. The inclusion of Hergesheimer's name on the map indicates that it was executed under his direction, and as chief draughtsman he had pioneered some of these new techniques. Hergesheimer was especially adept at illustrating topographic variation by shading, and this experimentation came just as the sectional crisis reached a breaking point. His use of shading to map the population distribution of slavery represents a path-breaking application of these new techniques to human geography.²⁶

Hergesheimer and his fellow German emigrants shared an antipathy to slavery and a concurrent loyalty to the Union. These sentiments alone might have motivated Bache and his staff at the Coast Survey to create these new maps of slavery. But the actual impetus for them was the political upheaval in the Border States in the early months of 1861. In the two months following Lincoln's election, the states of the lower South decisively left the Union. The states of the Upper South—especially Virginia, Tennessee, and North Carolina—were far more cautious and divided in their response. Throughout the winter and spring of 1861, unionists battled secessionists for the upper hand in each of these states, leaving the political fate of the Confederacy in question for an agonizing period that extended past Lincoln's inauguration. As Daniel Crofts has demonstrated, the unionists of the upper South had the advantage throughout this period, but their political power collapsed when Lincoln summoned troops just days after the attack on Fort Sumter.²⁷

During this period of intense debate over secession, Census superintendent Kennedy turned his office into a clearinghouse for Union propaganda. In February—attempting to capitalize on a unionist insurgency throughout Tennessee, North Carolina, and Virginia—Kennedy asked census workers to gauge unionist sentiment in those states. He then organized a massive mailing to undermine secession, together with William Seward and Charles Francis Adams, two of the most prominent individuals working to end secession.²⁸ Kennedy's efforts focused most energetically on Virginia, so it is not surprising

26. The new ways of representing topographic variation on a map are discussed in the Coast Survey's annual report for 1860, http://docs.lib.noaa.gov/rescue/cgs/001_pdf/CSC-0009.PDF. The map also includes a serial number that the Coast Survey used to identify experimental maps. John Cloud, conversation with the author, Sept. 26, 2008. For an exhaustive history of the Coast Survey's work in the Civil War, see Albert "Skip" Theberge's *The Coast Survey, 1807–1867*, archived at the National Oceanic and Atmospheric Administration, <http://www.lib.noaa.gov/noainfo/heritage/coastsurveyv011/CONTENTS.html>.

27. Daniel Crofts, *Reluctant Confederates: Upper South Unionists in the Secession Crisis* (Chapel Hill: Univ. of North Carolina Press, 1989).

28. *Ibid.*, 142–43.

that he supported the Coast Survey's efforts to map slavery in that state. Long before secession, Virginians had been aware that their interests were divided, with slavery concentrated in the east. Just days after Lincoln's proclamation, Virginia's leaders moved toward secession, officially ratified on May 23. Three days later Gen. George McClellan (then commander of the Department of Ohio) invaded western Virginia, and he spent the next two months fighting to secure the region for the Union. McClellan's invasion stabilized the region enough for the unionists in western Virginia to establish a reorganized government, and eventually the separate state of West Virginia.²⁹

The Coast Survey's map of slavery in Virginia—issued in June—must be seen in the context of this division within the state. Prior to the Civil War, the few extant maps of Virginia covered county boundaries and railroads, topography, internal improvements, and hydrographic surveys. This statistical map was probably the first map of Virginia to show to the distribution of the slave population, and it is almost certainly one of the first thematic maps made of the state.³⁰ In all likelihood, the Coast Surveyors took an existing county map of Virginia, and then applied the new hachuring techniques to identify slavery according to the new census figures. A reissue of the map in September identifies the western half of Virginia as “Kanawha,” one of the original names for a proposed new state and an implicit endorsement of its political independence.³¹

The map might have been initiated by the Bache himself. Though known for harboring southern sympathies in the 1850s, Bache became an ardent unionist during the secession crisis and joined the U.S. Sanitary Commission (USSC) as its vice president when it was formed in June 1861. In fact, the phrasing on the map, “Sold for the benefit of the sick and wounded of the U.S. Army,” anticipates the slogan of the USSC, “for the benefit of the sick and wounded soldiers,” with Bache linking the two. The map sends two mutually reinforcing messages about the crisis in Virginia. First, it made undeniable just how much slavery divided the interests of Virginians along geographical lines. Second, the shading of the state largely matched the divisions regarding secession, with lighter areas as comparative strongholds of unionism and darker areas sympathetic to secession. As Margo Anderson recently noted,

29. Richard Orr Curry, *A House Divided: A Study of Statehood Politics and the Copperhead Movement in West Virginia* (Pittsburgh: Univ. of Pittsburgh Press, 1964), 7–8, 68.

30. For typical contemporary maps see Richard Stephenson, *Virginia in Maps: Four Centuries of Settlement, Growth, and Development* (Richmond: Library of Virginia, 2002), 192.

31. Lincoln recognized West Virginia in his July 4, 1861, address to Congress.

Lincoln held out hope throughout the first year of the conflict that southern unionists might prevail, thereby curtailing the war, and in this light the maps might have been used to identify pockets of Union support. But by 1862 the darker areas of the maps indicated where the military might inflict maximum damage upon slavery, thereby advancing the Union cause.³²

If the map of Virginia was intended to encourage Union loyalty in that state, the Coast Survey might have designed the subsequent map of slavery in the southern states as a whole (September 1861) to highlight areas of unionist sentiment, or at least weak Confederate support. As one leading unionist in western Virginia claimed, West Virginia could be a model for other areas of the South where slavery did not dominate, such as eastern Tennessee, western Arkansas, northern Alabama, northern Mississippi, and ultimately all rebel states.³³ Whatever the motive for its creation, the map of the southern states is remarkable for its ability to depict an immense body of information in a relatively new manner. Its apparent minimalism suggests neutrality and transparency, yet the very existence of the map suggests that slavery caused the rebellion. And, as explained below, the map enabled Lincoln to follow the progress of his military, which after January of 1863 had officially become an army of liberation. In each of these instances, the map deployed its power in a slightly different way.

The map's scientific appearance was a deliberate choice, for the absence of decoration, color, and even a formal cartouche allows the map to assert its task without fanfare. With its plain appearance the map resembles the countless maps of exploration and administration that poured forth from contemporary federal bureaucracies such as the Coast Survey. Like Snow's map of London, it contains minimal information, in this case including only the slave population on a map marked only by county and state borders. With its appearance and streamlined use of statistics, it almost seems like an outgrowth of the census itself. This assumption is furthered by Kennedy's imprimatur in the lower left corner; the map, while not created under the auspices of the Census Bureau, was enthusiastically endorsed by its superintendent. Kennedy approvingly noted not just the accuracy of the map—which reflected the census figures

32. Margo Anderson has considered the politics of the Virginia map in more detail in "From Tables to Maps: The Publication of Census Data in the Era of the Civil War," paper delivered to the Social Science History Association, Oct. 24, 2008, Miami, Florida.

33. Curry, *House Divided*, 72; Joseph Henry, "Eulogy on Prof. Alexander Dallas Bache," in *Annual Report of the Board of Regents of the Smithsonian Institution for the Year 1870* (Washington: GPO, 1871).

gathered under his supervision—but also the concept behind it. Unlike the maps of the 1850s, propagandistic in tone and appearance, the 1861 slave map exudes a quiet confidence. It simply shows the viewer what is already known—though perhaps not fully understood—by the census figures but does so in a graphic way that instantly suggests the nature of the war. In this respect, the map nicely deploys the scientific authority of cartography, a tool that appears to allow the data to speak for themselves.

The details on the map reinforced this apparent transparency. The table placed in the lower middle outlines the absolute number of slaves in each state and the proportion of slaves to the total population. No doubt these figures reminded northerners that the first states to secede were also those with the most slaves, led by South Carolina, Mississippi, and Louisiana. The table orders the states according to their dependence on slavery, but few would have failed to notice that this corresponded—almost without exception—to the order that the states left the Union. As the viewer returned to the map, the lesson was reinforced: the darkest portions marked the most entrenched regions of plantation slavery as well as the areas that had been most hostile to antislavery sentiment.

And though its appearance suggests otherwise, the map is a strong unionist statement. The title, “The southern states of the United States,” sidesteps the fact of the Confederacy, while the lithographer again proudly asserts that the map was “Sold for the benefit of the Sick and Wounded Soldiers of the U.S. Army.” The slave map was created for one purpose—to chart the distribution of slaves—but it also was itself an expression of American nationalism. This map was published well before the USSC’s fabled wartime drives, not to mention the bond drives and the founding of Union Leagues. In this respect, the slave map is one of the earliest examples of Union fundraising and propaganda. The war fostered a metamorphosis in American national identity, and this map expresses the seeds of that new sentiment in scientific, cartographic form.³⁴ While it is nationalistic, it achieves this nationalism by focusing mostly on the states that have left the Union. It covers only the southern states—not the nation as a whole—and illustrates only the incidence of slavery.

Furthermore, the map allows the viewer to connect the destruction of slavery with the destruction of the rebellion. This makes the timing of its

34. On the rise of new forms of nationalism in the Civil War, see Melinda Lawson, *Patriot Fires: Forging a New American Nationalism in the Civil War North* (Lawrence: Univ. Press of Kansas, 2002), 181; J. Matthew Gallman, *Mastering Wartime: A Social History of Philadelphia during the Civil War* (New York: Cambridge Univ. Press, 1990).

publication important. After the Union defeat at Bull Run in summer 1861, Congress passed, and Lincoln signed, the First Confiscation Act. This attempted to weaken the Confederate military effort by subjecting to capture all property used to aid the rebellion. It essentially nullified claims by masters to slave labor, though it technically did not free the slaves themselves; in fact, the Fugitive Slave Law remained in force. Yet individual generals—such as John Frémont, David Hunter, and Benjamin Butler—used their authority to exceed the Confiscation Act, and though Lincoln quickly overruled them, these actions indicate the controversy around emancipation as a military instrument in the early months of the war. The slave map should be seen in this context. To American viewers in 1861, it connected the strength of the rebellion with the institution of slavery, thereby perhaps fueling unionist arguments about emancipation or confiscation as military measures. The map tells us nothing about the nature of its antislavery sentiment (moral, political, or other), but its very existence—coupled with the timing of its publication—makes it an antislavery document.

We know little about the reception of this map by the public, and thus my conclusions about its influence are necessarily provisional and suggestive. We do know that the maps of slavery were reproduced throughout the war.³⁵ For instance, Sidney E. Morse used the map to highlight the degree of presumed unionism in the mountain regions of western Virginia, eastern Kentucky, Eastern Tennessee, and western North Carolina. The great mistake of the Union war effort, he wrote, was to ignore the geographic distribution of slaveholding. Taking an adapted version of the slave map, Morse argued that the solution to the military stalemate of 1863 was to fortify the central mountain region, around which most of the southern railroads passed and which was filled with natural Union sympathy, or at least hostility to slavery. None of Morse's formulations, however, could have been conceived without a map.³⁶

We also know that the map had a privileged place in history, for Lincoln kept it close at hand and consulted it repeatedly. The president had access to countless maps during the war, many with far more detail than Hergesheimer's

35. Late in 1861, *Harper's Weekly* featured maps of the slave population of South Carolina and Georgia, indicating the public's interest in these new forms of information. See covers of *Harper's Weekly* for Nov. 23 and Dec. 14.

36. Sidney E. Morse, *A Geographical, Statistical and Ethical View of the American Slaveholders' Rebellion* (New York: Anson D. F. Randolph, 1863).

map of southern slavery.³⁷ Yet these were primarily topographical; those which attempted to chart a phenomenon, such as slavery, were exceedingly rare. In that respect this map was eminently practical, for it gave Lincoln and his cabinet access to information in a form they had not previously encountered.³⁸ Lincoln's interest in and use of statistics and geography is not difficult to establish. The figures from the Eighth Census of 1860 showed that there were nearly 4 million slaves in the American South, with an aggregate value of over \$1.2 billion. Lincoln also had access to detailed information on the slave population in the states, which he had requested from Superintendent Kennedy in order to make a case for compensated emancipation. In July of 1862, Lincoln revealed his plan for emancipation to his cabinet, which advised him to wait until a more politically opportune moment to take such dramatic action. No such moment occurred over the summer, so he took advantage of the marginal victory at Antietam in September to formally issue the Emancipation Proclamation. Throughout the fall, Lincoln continued to lobby privately for both compensated emancipation and colonization, neither of which ever gained substantial support. He made the case for these two measures publicly in his Annual Message to Congress in December 1862, which, by his reckoning, rested on three pillars: provisions to each state that voluntarily emancipated its slaves by 1900, compensation to individual slaveowners whose chattel were freed by the exigencies of war, and the colonization of emancipated slaves outside the United States.³⁹

The 1862 Annual Message is widely known today for Lincoln's concluding flourish: "We cannot escape history." But the heart of the speech is his case for compensated emancipation and colonization as a path to reunion, a plan that relied on statistics and geographical knowledge. In his address, Lincoln describes the United States as a unified territory that literally cannot be divided, for the geographic interdependence of free and slave states mocks the possibility of separation. The border is just a line on the map, and

37. For an introduction to the exceedingly rich archive of Civil War maps, see Richard W. Stephenson, *Civil War Maps: An Annotated List of Maps and Atlases in the Library of Congress*, 2d ed. (Washington, D.C.: Library of Congress, 1989), and Stephenson, *Virginia in Maps*.

38. Compare Hergesheimer's map to one published just a few months earlier, just after the crisis at Fort Sumter and the ensuing secession of Virginia. Horace Thayer's "Statistical and Military Map of the Middle and Southern States" included a small inset map that overlaid on each state the population breakdown of whites, free blacks, and slaves. Like the prewar maps, Thayer had taken the initial step toward translating the census into cartographic form but had done little to visually convey the "shape" of slavery.

39. On Lincoln's request for statistics from Kennedy, see Anderson, *American Census*, 67.

Lincoln refers repeatedly to the nation's territorial coherence. As he writes, "a glance at the map" indicated that the nation's future lay west of the Mississippi, the great interior which depended on existing trade outlets in San Francisco, New Orleans, New York, and Boston. This interior could never be divided.⁴⁰ Lincoln uses the census statistics supplied by Kennedy to show that the cost of compensated emancipation could be carried by the nation's growing population. Lincoln's advocacy of compensated emancipation and colonization is now seen as at odds with his moral opposition to slavery. But we need to establish his conflicted posture in order to ask how he made sense of this map, which brings us back to Carpenter's painting.

Francis Bicknell Carpenter had painted other presidents, including Millard Fillmore, Franklin Pierce, and John Tyler, as well as John Frémont and Henry Ward Beecher. In 1862 he found himself moved by Lincoln's Emancipation Proclamation and wanted to use his talents to immortalize the president's announcement of this moral decision to his cabinet, "a scene second only in historical importance and interest to that of the Declaration of Independence." Through social connections, the artist was able to meet Lincoln and ask for the opportunity, and after securing the president's permission and private funding, he took up residence at the White House in February 1864.⁴¹ In his memoir, Carpenter emphasizes how carefully he rendered the details in this painting, including the arrangement of the cabinet members according to their sentiment regarding emancipation: Secretary of the Treasury Salmon P. Chase and Secretary of War Edwin Stanton are to Lincoln's right (Chase is standing), while Secretary of State Seward sits in the foreground. To Lincoln's immediate left are Secretary of the Navy Gideon Welles, Secretary of the Interior Caleb B. Smith and Postmaster General Montgomery Blair are standing to the rear, and Attorney General Edward Bates sits at the far right of the portrait. Lincoln sits at the center "nearest that representing the radical, but the uniting point of both."⁴²

40. Abraham Lincoln, "Annual Message to Congress," Dec. 1, 1862. Lincoln made similar use of maps and census returns in his speech against the Kansas-Nebraska Act at Peoria in October 1854. Arguments that slavery would not likely spread to Kansas, he stated, could be refuted by a simple "glance at the map," which showed that shows that the climate of five border states was similar to Kansas, and that the census returns already showed nearly a million slaves north of the Missouri Compromise line. Lincoln, Speech at Peoria, Illinois, Oct. 16, 1854, in *The Collected Works of Abraham Lincoln*, ed. Roy P. Basler, (New Brunswick, N.J.: Rutgers Univ. Press, 1953), 262.

41. Francis Bicknell Carpenter, *Six Months at the White House with Abraham Lincoln: The Story of a Picture* (New York: Hurd and Houghton, 1866), 25.

42. *Ibid.*, 25-28.

Carpenter gave the same care to the physical details: a copy of the antislavery *New York Tribune* lays at the feet of Edwin Stanton, while a portrait of the prior secretary of war, Simon Cameron, is visible beyond Stanton's head.⁴³ The map lying across the table—directly behind Seward—was the Coast Survey's 1863 *Map of the State of Virginia*, which included both population statistics and concentric rings around Richmond to guide Union strategy.⁴⁴ And because Carpenter frequently found Lincoln engrossed in the Hergesheimer map, he decided to reproduce it in recognizable detail. To do so, however, meant studying the map closely, and so one day Carpenter took the map to his studio. According to the artist, soon Lincoln paid him a visit, as he often did to distract himself from his pressures of the war. Upon entering the studio, the president quickly noticed the map in the corner of the room and exclaimed, "You have appropriated my map, have you? I have been looking all around for it." Carpenter continued: "And with that he put on his spectacles, and, taking it up, walked to the window; and sitting down upon a trunk began to pore over it very earnestly. He pointed out Kilpatrick's position, when last heard from, and said:—'It is just as I thought it was. He is close upon——County, where slaves are thickest. Now we ought to get a "heap" of them, when he returns.'"⁴⁵

Lincoln was referring to Judson Kilpatrick's cavalry raid upon Richmond, from February 28 to March 2, 1864. The maneuver failed to capture Richmond—and actually disgraced Kilpatrick in the eastern theater—but Carpenter's anecdote indicates that Lincoln used the map to chart the progress of the Union troops in liberating slaves, thereby destabilizing the Confederacy. The president's preoccupation with this map cannot explain his complex motives for issuing the Emancipation Proclamation, but it does give us a glimpse into the contemporary and contingent organization of information; in this case, it helped Lincoln visualize the military expediency of emancipation, and perhaps black recruitment as well. Thus it seems fitting that Lincoln was enthusiastic about Carpenter's finished portrait and singled out the slave map as one of its notable details.⁴⁶

43. A brief treatment of the painting's composition can be found in Barry Schwartz, "Picturing Lincoln," in *Picturing History: American Painting 1770–1930*, ed. William S. Ayres (New York: Rizzoli, 1993), 135–55. See also Holzer, Boritt, and Neely, "Francis Bicknell Carpenter."

44. *Map of the State of Virginia, Compiled from the best authorities, at the Coast Survey Office. A. D. Bache. Supdt., December 1863*, located in the cartographic collection of the American Geographical Society, Univ. of Milwaukee. I thank John Cloud.

45. Carpenter, *Six Months at the White House*, 215.

46. *Ibid.*, 353.

We do not know how Lincoln came across this map or why it initially captured his interest. In 1861 he asked Superintendent Kennedy for census figures to calculate the feasibility of compensated emancipation; he might have used the slavery map for same reason. Yet by early 1863 Lincoln had abandoned both compensated emancipation and colonization, and now he thought about the war, at least in part, as one of liberation. Scholars are not entirely sure how this conversion took place in the winter of 1862–63, but from this point Lincoln began to justify the military necessity of emancipation. As Margo Anderson observed, Lincoln and his contemporaries were also keenly aware of the problems emancipation would pose for apportionment. Ironically, that is, emancipation—as stipulated in the Thirteenth Amendment—would increase the strength of southern states in Congress and the Electoral College. In a roundabout way, this threat to the northern states, particularly to the Republican Party, led to the Fourteenth and Fifteenth Amendments, which attempted to ensure that blacks had access to the ballot box. All these issues might have occurred to politically sensitive Republicans viewing Hergesheimer's map. Both Lincoln and Carpenter appreciated that the map was unlike anything they had seen before. In other words, though Lincoln may not have appreciated the technical expertise that went into creating it, he clearly understood that it was decidedly more sophisticated than its prewar counterparts. That it was copied and reproduced widely suggests that it struck a chord outside the White House as well.⁴⁷

How Lincoln looked at this map at any given time is impossible to determine—as mysterious as how individuals read novels or make sense of films. But the map influenced the proliferation of statistical and thematic cartography after the Civil War. It was produced to promote a particular vision not just of the war but of the relevance of the Census and the role of mapmaking for governance. This vision would be more fully realized in the 1870s, when the Census Office began to systematically exploit thematic and statistical cartography to disseminate its work.

The 1870 Census was executed in an environment altogether more hospitable than what Kennedy had confronted a decade earlier. Its superintendent,

47. Adolph von Steinwehr's *Map Showing the Distribution of Slaves in the Southern States* (circa 1861), possibly modeled on Hergesheimer's map, was reprinted in *Harper's Weekly*, accompanied by a description that observed the widely differing levels of dependence upon slavery throughout the southern states. *Harper's Weekly*, Feb. 28, 1863, 141–42. See also Calvin Smith, *The New Naval and Military Map of the United States* (1862). Both the Steinwehr and Smith maps can be found in the Geography and Map Division of the Library of Congress.

Francis Amasa Walker, was a brilliant advocate, and found a receptive government eager to fund an undertaking that would knit the nation together through information. Walker consolidated the country's interest in the census and raised its profile substantially. Most important, in 1874 he published the first national atlas ever based on census figures. In its ambitious scope and dazzling execution, profusely illustrated with an array of graphs, charts, and maps, the *Statistical Atlas* continues to command interest among scholars as a landmark document of nation-building and state formation.⁴⁸

According to Fulmer Mood, the crucial influence over American thematic cartography immediately after the Civil War was August Meitzen, a Prussian statistician whose work initially dealt with land use in Germany. His 1871 atlas included maps that charted the development of Prussian territory over time, notable for the attempt to convey and collapse complex changes in political geography onto a single image. The atlas included other maps of topography, geological formations, soil types, average temperatures, and population density, the last of which recall the Civil War thematic maps of the Coast Survey. Many of Meitzen's manuscript maps were available to delegates of the International Statistical Congress in 1869, and some made their way back to the United States and into the influential hands of Daniel Coit Gilman, then professor of geography at Yale's Sheffield Scientific School.⁴⁹

In his address to the American Geographical Society in January 1872, Gilman enthused over the maps Walker was preparing for the *Statistical Atlas*, arguing that these new techniques held tremendous promise for the organization of information. Gilman was particularly taken with a map of Alabama, "which shows at a glance in what part of that State the Africans preponderate, a series of tints being employed . . . which are darker in proportion as the number of Africans increases." As Gilman admitted, "it would take a long time to discover these facts from a column of figures." This was precisely the technique that Hergesheimer and the Coast Survey had used to such great effect in 1861. Andrew Dickson White, as president of the University of California, concurred: the kind of work being done by Walker for the U.S. Census exemplified of the power of graphic display of data. Expanded and

48. See Matthew Hannah, *Governmentality and the Mastery of Territory in Nineteenth-Century America* (New York: Cambridge Univ. Press, 2000), 14 and chap. 5; Schulten, "Mapping American History," 190–94.

49. Fulmer Mood, "The Rise of Official Statistical Cartography in Austria, Prussia, and the United States, 1855–1872," *Agricultural History* 20.4 (Oct. 1946): 209–25, esp. 213–16.

multiplied, this kind of work could further social progress. As Alexander von Humboldt put it a half-century earlier, statistical projections could “speak to the senses without fatiguing the mind.”⁵⁰ The recurrent German influence is worth noting: Humboldt—like Meitzen and Petermann—had influenced Hergesheimer, who brought these techniques to the United States. Thematic cartography—and cartography for that matter—is essentially a transatlantic phenomenon, and by 1870 statisticians in the United States had discovered the potential of this new genre.⁵¹

In his 1874 *Atlas*, Walker institutionalized the cartographic techniques Hergesheimer and the Coast Survey first used. His maps of the national population again used the gradient shading introduced by Hergesheimer. This is but one of the many examples of a larger shift over the course of the century toward the graphic presentation of information and the authority of statistics. Yet few historians have considered how graphic and cartographic language transformed the production of knowledge in the nineteenth and early twentieth centuries.⁵²

Consider, for instance, how the graphic display of the census nurtured Frederick Jackson Turner’s frontier thesis. According to Fulmer Mood, Turner could not have arrived at his frontier thesis without statistical and thematic maps. This connection was elaborated by Ray Allen Billington, who identified Turner’s study of geography and familiarity with contemporary maps, atlases, statistical tables, and census bulletins. Walker’s *Atlas* was primary among these, in particular the explanatory essay on the “Progress of the Nation,” which identified a “line of continuous settlement” or “frontier line” in the American West. Walker’s *Atlas* included the first maps to identify lines of population growth. The small inset in this essay, overshadowed by the large, full page color maps, marked the geographic “center” of population at the moment of each census since 1790. Turner relied even

50. Wright, *Geography in the Making*, 88, 392; Mood, “Rise of Official Statistical Cartography,” 218. See also John K. Wright, “Daniel Coit Gilman, Geographer and Historian,” *Geographical Review* 51.3 (July 1961): 381–99.

51. Mood, “Rise of Official Statistical Cartography.”

52. There is a solid literature on the history of statistical thinking, yet few of these works consider graphic or cartographic knowledge. See Oz Frankel, *States of Inquiry: Social Investigations and Print Culture in Nineteenth-Century Britain and the United States* (Baltimore: Johns Hopkins Univ. Press, 2006), and Ian Hacking, *The Taming of Chance* (New York: Cambridge Univ. Press, 1990). Robinson’s *Early Thematic Mapping in the History of Cartography* is limited to work in Europe. An exception is Gilles Palsky and Michael Friendly, “Visualizing Nature and Society,” in Akerman and Karrow, *Maps*, 207–53.

more heavily on Walker's successor, Scribner's *Statistical Atlas of the United States* (1885); he urged it on his students, used it for reference, quoted from it in his writings, and consulted it while preparing his 1893 paper for the American Historical Association meeting in Chicago. Turner's argument about historical change was essentially cartographic in nature, and in turn depended upon cartography to be understood as a meaningful commentary on American history.⁵³

By this reckoning, maps are not just products of circumstance, but they in fact shape those circumstances. Hergesheimer's map of slavery—whether wielded as antislavery propaganda or consulted for its ability to clarify unwieldy and complex information—resulted from a number of changes: the influence of European thematic cartography, the rise of inexpensive map publishing, the widened purview of the U.S. Census, the growth of sectional tensions, and the secession crisis itself. The fact that the Coast Survey created the map indicates that Bache and his staff aimed to visualize the human landscape of slavery, just as the countless other maps had visualized the physical landscape. By making this map, Hergesheimer introduced to American political and intellectual leaders the potential for thematic cartography to both shape and serve public policy. After the war, men such as Francis Amasa Walker and Daniel Coit Gilman—the arbiters and producers of knowledge—touted thematic and statistical cartography as a new way to convey ideas about not just the land but its people as well. Indeed, thematic and statistical maps became handmaidens to late-nineteenth-century governance in the United States, exemplified by the *Statistical Atlas* of 1874 and 1885. The Coast Survey's maps—born in the secession crisis—were central to the emergence of this new kind of cartography in the late nineteenth century.

53. Henry Gannett, *Statistical Atlas of the United States* (1885). This discussion of the intellectual roots of Turner's thesis relies on Ray Allen Billington, *The Genesis of the Frontier Thesis: A Study in Historical Creativity* (Pasadena, Calif.: Huntington Library, 1971), 108–12; Mood, "Rise of Official Statistical Cartography." A terrific study of the culture of information in the European context is Daniel Headrick, *When Information Came of Age: Technologies of Reason in the Age of Revolution, 1700–1850* (New York: Oxford Univ. Press, 2000).