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William C. Dickinson, Dean A. Herrin, Donald R. Kennon, eds. *Montgomery C. Meigs and the Building of the Nation's Capital.* Athens: Ohio University Press, 2001. xiv + 198 pp. $24.95 (paper), ISBN 978-0-8214-1397-5; $49.95 (cloth), ISBN 978-0-8214-1396-8.

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The Last of the Engineer-Architects

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"Soldier, Engineer, Architect, Scientist, Patriot," reads the gravestone of Montgomery C. Meigs. Even Leonardo, Vauban, or L'Enfant might have hesitated to claim all of these titles, but Meigs had some justification for his posthumous boast. As a soldier, he served as the Union Army's Quartermaster General, helping to win the Civil War. As an engineer, he built a water supply for Washington, D.C., including tunnels, reservoirs, and bridges. As an architect, he supervised the extension of the U.S. Capitol in the 1850s, including its cast-iron dome, and later designed the magnificent Pension Building, now the National Building Museum. As a scientist, he experimented with acoustics and wet-plate photography. And as a patriot, he both saved his country from dissolution and added to the glory of its capital. He is to be remembered for every role.

Up to now, however, only the soldier and patriot have been fully studied. Two biographies, Russell F. Weigley's *Quartermaster General of the Union Army* (1959) and David W. Miller's *Second Only to Grant* (2000), focus on Meigs's service as Quartermaster General, each devoting only short sections to his work on the aqueduct and Capitol, and barely mentioning his postwar career as a builder. Alan Lessoff's book, *The Nation and Its City: Politics, Corruption, and Progress in Washington, D.C., 1861-1902* (1994) notes some of Meigs's contributions to mid-19th century Washington, but its main focus is on the generation of Army engineers who followed Meigs. Fortunately, *Montgomery C. Meigs and the Building of the Nation's Capital* does much to fill what had been a shameful gap in the scholarly literature on Meigs and on Washington, D.C.

Meigs was born in 1816, in Augusta, Georgia. He graduated fifth in the West Point class of 1836 and, after a year as an artillery officer, joined the Army Corps of Engineers. For the next fifteen years he worked on a series of river and fortification projects, mostly in the West. But through family and Democratic party links, Meigs was always well connected to senior army officers and politicians. In 1852, these connections and his own talents gained him the assignment of surveying a water supply for Washington and Georgetown. The following year Meigs was not only given the task of building the aqueduct he had recommended, but also was put in charge of extending the Capitol, adding new wings for the House and Senate and, eventually, devising the structure of the new dome.

As Quartermaster General during the war, Meigs fed, clothed, and housed a million men, and suggested that Robert E. Lee's Arlington estate be made a cemetery for fallen soldiers. After the war, he helped program the State-War-Navy Building (now the Eisenhower Executive Office Building) and the Smithsonian's National Museum (now the Arts and Industries Building), then designed the Pension Building, where 1600 clerks could process the pension claims of hundreds of thousands of Union veterans. He died in 1892, and was himself buried at Arlington National Cemetery. Throughout his career, he proved himself able, dedicated, egotistical, and prickly. He earned demerits as a West Point cadet, feuded with politicians, even presidents, and carved his name all over every project he worked on. Yet given his contribution to his city and his country, he may not have had too high an opinion of himself.

Montgomery C. Meigs and the Building of the Nation's Capital consists of eleven essays, originally presented at a 1996 symposium at the Building Museum and grouped here into three parts. The first section of the book, "Meigs the Engineer," explores Meigs as a master of arches, ventilation, and construction. Dean A. Herrin explains Meigs's work as that of an engineer whose training was better than that of most American engineers while falling far short of European standards. Unable to build

on or even fully understand the latest French engineering theories, Meigs was nonetheless able to apply them, devising such ingenious solutions as a bridge whose cast-iron arches doubled as water conduits, and a crane allowing the new Capitol dome to be built from the inside out. Harry C. Ways, a former chief engineer of the aqueduct and author of *The Washington Aqueduct, 1852-1992* (1996), provides a detailed account of Meigs's work on that system, parts of which, including the Cabin John Bridge and the Georgetown Reservoir, remain in use today. Martin K. Gordon provides a brief epilogue to Meigs's career, explaining that as the nineteenth century ended, the American Institute of Architects muscled the Corps of Engineers out of the architectural business, leaving Meigs the last of the soldier-architect-engineers.

The second section, "Meigs's Architectural Inspirations and Designs," presents the aesthetic aspects of Meigs's work as a builder. In separate essays, Pamela Scott and Cynthia R. Field present Meigs not as a gruff engineer dismissive of architects but as a serious architectural thinker, who drew not only on his military training but his reading in several languages and on the Renaissance and classical architecture he saw during his two European tours after the war. These essays are followed by Linda B. Lyons's account of Meigs's great work of original architecture: the Pension Building. The essay, a revised and condensed version of Lyons's *Building a Landmark: A Guide to the Historic Home of the National Building Museum,* 3rd ed. (1999), portrays a mature Meigs, freed from the burden of cooperating with an architect, able to control everything from ornament to ventilation in a building both functional and monumental. In the final entry in this section, Michael Mills discusses an 1877 sergeant's quarters at Fort Myer as an example of the standardized military housing built under Meigs's direction. His essay provides both a quotidian contrast with Meigs's monumental work on the Capitol and Pension Building and a sense of the challenges of historic preservation presented by such everyday buildings.

A final section, "Meigs the Mid-Nineteenth Century Renaissance Man," serves as a catch-all for four remaining essays about other aspects of Meigs's work. Lest librarians think that the peril of obsolete data formats appeared only with the computer, William D. Mohr explains the challenges he faced decoding three volumes of Meigs's journals, kept in sloppy Pittman shorthand. It is Mohr's painstaking work that underlies much of the recent scholarship about Meigs, including portions of this volume and Miller's biography. Wayne Firth documents Meigs's passion for photography. Meigs was quick to see the camera's potential as what we would call a photocopier, using wet-plate photography to duplicate construction drawings and artwork during the extension of the Capitol. Barbara A. Wolanin explores Meigs's choices of artists and artwork for the Capitol. Like the essays by Herrin, Scott, and Field, her entry portrays Meigs as a determined Europhile. Though he himself believed he had done much to advance American art, in part by leaving blank spaces in the Capitol for future artists to fill, critics complained he too far favored European forms and European artists. In a concluding essay, William C. Dickinson presents Meigs as a manager of both civil construction and military supply, though he tends to assert Meigs's greatness rather than explain in detail key management decisions.

Put together, the eleven essays do much to flesh out Meigs in his full complexity and achievement. Still, one hopes that this will not be the last word on the subject. For example, more could be said about Meigs's popularity in Congress, which repeatedly specified Meigs by name in its legislation authorizing construction projects. And more could be done to place Meigs's career in the history of the American engineering profession and American city-building. A fuller account might compare him to such contemporaries as John Roebling, James Eads, and George Waring, to later polymaths such as Buckminster Fuller, or to today's more specialized engineers and architects. Meigs can be seen either as a jack-of-all-trades and master of none, or as an admirably flexible designer whose range of projects puts today's specialists to shame. It would be interesting to read a scholarly debate on the issue.

And while all of the chapters in this volume are held together by a focus on Meigs's career, a clarity of language and argument, and a wealth of illustration, the compilation is inevitably less polished than would be a work by a single author. Several incidents from Meigs's career crop up repeatedly, while others, including his tense relationship with Capitol architect Thomas U. Walter, are mentioned but never fully narrated. (More complete accounts of this quarrel can be found in the Weigley and Miller biographies.) And because of the range of the authors' backgrounds–architecture, engineering, management and historic preservation included–the vocabulary of the book tends to shift from chapter to chapter, with some, for example, deploying specialized architectural vocabulary, while others seem written for a more general readership.

On the whole, however, the book's multiple voices are a great asset. Each author brings a specialist's knowledge and attention to a particular aspect of Meigs's life

in a way that no single author could. Indeed, the very range of expertise needed to explain Meigs illustrates better than any other device the breadth of his work. In this more specialized age, perhaps only a committee can appreciate the achievements of this remarkable Victorian Renaissance man. *Montgomery C. Meigs and the Building of the Nation's Capital* is therefore a most welcome companion to the two single-author biographies, as well as a boon to our understanding of the history of Washington, D.C., and nineteenth-century building.

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