
With this work, the New Economic History has settled on indentured servitude as an area of study. David Galenson, a member of the Economics Department at the University of Chicago, presents us with a reworking of his doctoral dissertation in economics from Harvard University. Scholars working in the field will not be surprised by this book, since he has previously published the more significant findings in such journals as the Journal of Southern History, the Journal of Economic History, and the William and Mary Quarterly, where he engaged in a two-part debate with Mildred Campbell (July 1978 and April 1979).

The book is based on an analysis of six sets of English legal registrations of over twenty thousand individual indentures during the period 1654 through 1775. The substance of the work is primarily an exposition of the material found in those legal records—after having been quantified and massaged in a variety of meaningful and statistically significant ways.

The major points of Galenson's analysis may be summarized as follows:

The indentured servitude system of the British colonizers in America was a product of an effort to transplant the English system of service in husbandry to the New World. It developed out of the need to provide credit for those wishing to emigrate to British America, but who did not have the necessary capital to pay the cost of the trans-Atlantic voyage.

As for the servants themselves, Galenson concludes that the male servants of the seventeenth century “represented a cross-section of a very broad segment of English society. . . . A large number of the servants were farmers, both yeomen and husbandmen. Another sizable portion was made up of men skilled in a wide variety of trades and crafts. . . . A third substantial part was composed of those without such skills or fixed occupations, most of whom had probably worked for hire by the day in agriculture. . . . Finally, a significant group comprised the young men who had not yet entered independent positions in English society and who chose to complete their life-cycle in America” (pp. 49–50).

Other demographic conclusions that Galenson draws are that the servants were predominantly male (at least three-quarters of the total) and that their age ranged from late teens to early twenties. In the 1650s, the men were evenly divided between those with work experience and skills and those without. As the seventeenth century progressed, the number of unskilled servants increased to about two-thirds, while the eighteenth century showed a reversal of that trend with sharply increased numbers of skilled servants coming to the New World. According to Galenson, approximately 85 percent of those coming in the 1770s were skilled servants. As part of that change, the number of servants with agricultural experience declined and, increasingly, those with work experience came from the manufacturing and service occupations.
Galenson also examines the destination of these indentured servants and finds that, from the 1680s until the middle of the eighteenth century, servants with occupational skills were more likely to migrate to the West Indies than to the North American mainland. He also discovers a "positive relation between the share of slaves in a colony's net immigration and the share of its immigrant servants who were skilled: the more heavily a colony depended on the importation of slaves to satisfy its labor requirements, the higher the proportion of its indentured immigrants who possessed skills" (p. 174).

Another part of the analysis traces the gradual shift of the dominant labor force in the Chesapeake region from indentured servitude to slavery and the economic and social forces that caused this shift. Along the way, Galenson makes some interesting comparisons with the institution of slavery, as analyzed by his mentors, Robert Fogel and Stanley Engerman, in *Time On The Cross*.

While the author has engaged in a prodigious undertaking, and we should be indebted to his yeoman efforts, the book promises more than it produces. First, it is much more limited than the title suggests. Rather than being an analysis of indentured servitude in colonial America, it is primarily an analysis of servitude in the Chesapeake region and in the West Indies. This is a function of the data: most of the servants recorded in the six registries went to the West Indies and the Chesapeake. There is little mention of the Middle Colonies or New England.

Second, while the book is a masterful analysis of the data under examination, it lacks historical depth. The work would have been strengthened significantly if the author had gone outside of his data base and made more of an effort to put his statistical analysis into a better historical context.

Many will argue over Galenson's assumptions and his use of data. However, the author has done a great service by providing us with a starting point; the reexamination of white servitude in colonial America remains to be written.
whole. Thus, item #213 which is in the penultimate section, a pamphlet about paper currency, was written and published by Franklin in 1729.

While the items described in the catalogue are primarily published works, it also includes many manuscripts, a number of illustrations, and even such exotic accessions as a mummy’s hand presented by Benjamin West in 1767 (#19). Paintings include Thomas Sully’s Zachariah Poulson, Jr. (#128), Peter Cooper’s Panorama of Philadelphia, circa 1720 (#138), and West’s The Reverend Samuel Preston, a generous donor who gave the Library Company more than 2,500 volumes (#77).

Over the centuries the Library Company showed rare insight in purchasing many books which have taken their place as fundamental volumes in the advancement of knowledge, or have become extremely influential in human development. These include James Cook’s description of his voyages around the world (#22); Thomas Jefferson’s first publication, A Summary View of the Rights of British America (#28); Thomas Malthus’s Essay on the Principle of Population (#74); and Walt Whitman’s Leaves of Grass (#136). The Library Company also bought Phyllis Wheatley’s first published poem, An Elegiac Poem, a broadside issued in 1770, when it came up for sale in 1785 (#43).

This great library has also been fortunate in its gifts from generous donors. James Logan’s copy of Isaac Newton’s Principia, including notes by the purchaser stands high on such a list (#55), as would his copy of the 1602 edition of Chaucer’s Works (#59). The English Quaker patron of American libraries, Peter Collinson, donated a copy of the 1612 edition of the Laws of Virginia Colony (#13); James Boswell’s Life of Samuel Johnson (#107) came as a gift, as did Adam Smith’s Wealth of Nations (#164). The authors of A Narrative of the Proceedings of the Black People, during the late Awful Calamity in Philadelphia, Richard Allen and Absalom Jones, gave this pamphlet to the Library Company soon after the yellow fever epidemic of 1793 (#69).

This beautiful book is the work of The Stinehour Press, The Meriden Gravure Company, and was designed by Adrianne Onderdonk Dudden. It provides a delightful introduction to the riches of the Library Company and will serve as a standard to be emulated by other libraries as they prepare catalogues to accompany exhibits.

Haverford College

EDWIN B. BRONNER


Since the late 1960s, heightened interest in ecology and the out-of-doors among the American public has spurred the publication of numerous works dealing with the historical antecedents of our contemporary passion for nature. Popular accounts of the early naturalists, such as Robert Elman’s First in the Field and Joseph Kastner’s A Species of Eternity are now joined by this scholarly, lively, definitive account of the life and work of Pennsylvanian John Bartram (1699–1777).

One of a company of distinguished colonial botanists, which included John Clayton, Alexander Garden, John Mitchell, and Cadwallader Colden, Bartram came to his calling comparatively late in life. His relationship with Englishman
Peter Collinson, who encouraged Bartram's career through correspondence and by facilitating the sale of seeds and other specimens in his native land and elsewhere, did not begin until 1733, while Bartram's first published work appeared only in 1740.

Bartram's lack of formal education, which was often reflected in his written efforts, was more than offset by his boundless curiosity, perseverance, and common sense. Although he is generally regarded as a botanist, he might more accurately be called a plant hunter and cultivator. On his many expeditions, which ranged from Lake Ontario to the St. John's River in Florida, he was always on the lookout for new specimens, as well as more conventional varieties to meet the needs of his English, American, and European customers. Yet his interests extended beyond the plant world to other realms of nature, including geology and zoology.

Although the description of Bartram's travels and scientific contributions dominates the book, the Berkeleys do not neglect his domestic life. Indeed, one must remember that John Bartram was primarily a farmer for whom botanical pursuits came to occupy a larger and larger amount of time and commitment. He was also a Quaker, although, as the authors show, not without doubts, which eventually led in 1758 to his disownment from the Darby Monthly Meeting. Another problem during his life was his son William, who as a young man was rather unfocused and erratic, despite his possession of a great gift for drawing, leading his father to waste money investing in a Florida plantation scheme for which Billy, it turned out, had little aptitude or interest.

As far as the scholarly apparatus of this book is concerned one couldn't ask for more. The Berkeleys have spent many years in their research into the eighteenth-century botanical world (their earlier works include biographies of John Clayton and Alexander Garden), and it is doubtful that there are any primary sources in this area whose depths they have not plumbed. The book reads well, and is physically handsome, the text being supplemented by numerous drawings and maps, some of them by Dorothy Smith Berkeley, while others are reproductions of earlier works. Appendixes, including a list of Bartram's customers, footnotes, bibliography, and index, complement the work.

The only problem I had with the book was that of place names and geographical locations. At times it was difficult to know whether the eighteenth or twentieth-century name was being used. The Rattlesnake Mountains (p. 34) are a case in point. There are occasional parenthetical identifications, but the lack of consistency in the text itself poses a problem, especially for the reader trying to follow the path of Bartram's journeys on a twentieth-century map, perhaps in anticipation (as was mine) of re-creating a Bartram trek on their own.

But what a minor quibble with what is otherwise a masterful account. We can learn much from reading about the eighteenth-century naturalists. Theirs was a world of direct experience and tactile contact with their environment, their hands in the soil, and their hearts and minds aglow with the excitement of fresh knowledge and new experience. Arise, gentle readers, from your home computers and library stacks, to find that world, for it has not yet been lost. And let friend Bartram be your guide.

Silver Spring, Maryland

NANCY SAHLI

This book is history with a moral. Immediately and in all fairness to the author, it must be made clear that it is history first and last and that a moral is found in these pages because its two subjects, Christopher Sauer, father, and Christopher Sauer, son, were deeply religious men who struggled to live their religious principles in a society, that of eighteenth-century Pennsylvania, which, during their time, became increasingly more secular and less hospitable to their definition of Christian ethics. The moral might be defined as how to remain a righteous man in an evil world. But it could not be stated as the inevitable triumph of the righteous man over his enemies. The book ends on a note of tragedy rather than of triumph, as Christopher Sauer, the son, is stripped of his press and other property, in 1778, by the Revolutionary government of Pennsylvania for alleged disloyalty. With this act, the period of Sauer influence in Pennsylvania, which began in 1739 when Christopher Sauer, the father, began the publication of a German newspaper, came to an end.

As described by the author, the Sauers made the years 1739-1778 an extraordinary period because of their productivity and their contribution to the cultural development of Pennsylvania. On their Germantown press, the two Sauers printed three complete Bibles, one New Testament, a psalter, an edition of the Martyrs Mirror, a newspaper, an almanac, various denominational hymnals, a religious magazine, and numerous handbills and tracts. As a concrete measure of productivity, the author notes that, in 1762 alone, Christopher Sauer, the son, printed a Schwenkfelder hymnal, an English language learning book, a new edition of a psalter, a Lutheran hymnal, along with a newspaper, a yearly almanac, and other works. But it was not the quantity of material alone which was important. Of even greater significance was the position which the Sauers occupied as the intellectual, moral, and political leaders of the large and growing German population of the colony. During the time of the father this position went virtually unchallenged. However, during the lifetime of the son, the church Germans, Lutheran and Reformed, turned increasingly to the paper of Henry Miller which shared their opinion as to the need for an adequate defense of the colony. However, even in the difficult years of the Revolution, the son retained the loyalty of the German sectarians. This loyalty, as Longenecker makes clear, was based on firm foundations: on the use by the Sauers of the mother tongue, on their efforts to improve the treatment of German immigrants, on their assistance with naturalization, on their leadership in provincial politics, and, finally, on their conviction, shared by the vast majority of Germans (and other Pennsylvanians of the period), that society and culture were to be established on religious principles.

According to Longenecker, in religious convictions, the father was a genuine and thorough separatist. He did not believe in religious organization; therefore, he was not a member of any church or religious body. Instead, he believed that faith was expressed in character and behavior. Consequently, he was critical of clergymen and churches and was, at times, caustic in his portrayal of strife within congregations and bitter in his accounts of the unchristian life style of certain ministers. He believed that Christians should care for the poor and oppressed, that they should not engage in litigation or take oaths and that they...
should not go to war. These beliefs were shared by the son except that he became a member of the Dunker congregation in Germantown. As publishers, the Sauers were teachers encouraging their readers to oppose the trade in Negro slaves, to treat Indians justly, and to live in peace with their neighbors. They also taught the importance of political activism as a means of translating principles into law and public policy.

If these men accomplished all this, why did the Sauer dynasty fall? Longenecker answers this question by concluding that the son made a grievous political miscalculation as the Revolutionary movement emerged in 1774–1775. He was convinced that the provincial government, based on the Charter of Privileges, had given Pennsylvania a liberal and humane administration which had been sensitive to and understanding of its pacifist minorities. He saw little reason to make a change, particularly through violence. In all this, he misjudged the forces which were leading to revolution. When the struggle began, he insisted that he was neutral, but many of his fellow-countrymen saw him as a Loyalist. Still, as Longenecker notes, his last years were truly heroic, as propertyless and without political power, while earning a living as a bookbinder he continued to affirm his convictions to Dunker congregations. He died at sixty-three at his work bench.

This is a helpful and rewarding book, based on thorough research, carefully planned and well written. Although sympathetic to his subjects, the author does not hesitate to record their weaknesses. This is not a biography, but a study of two men, of the convictions which guided their lives, and of the influence which they exerted upon their society. The author traces, accurately and clearly, the major currents in Pennsylvania religious, political, and cultural life in the period, 1720–1780. It is recommended to every student of Pennsylvania history.

Allentown, Pennsylvania

MAHLON H. HELLERICH


While the Continental Army has been studied from its tactical, strategic, and political aspects, only recently has attention been directed toward the administrative machinery which, however ineffectively, enabled it to function. Correction of this deficiency, starting with Erna Risch’s 1981 work, Supplying Washington’s Army, has been continued with Paul K. Walker’s excellent documentary account of the Continental Army’s engineers.

His approach is topical, addressing first the procurement and difficulties of retaining qualified engineer officers and the subsequent formation of engineer units, followed by accounts of engineer participation in the war’s successive campaigns, and concluding with the plans for preserving postwar military engineering capabilities. The story is told by well-selected extracts from contemporary documents (many previously unpublished), interspersed with explanatory text putting the extracts into clear context and perspective.

The subject’s importance is underscored by the fact that, with artillerymen, engineers constituted the only eighteenth-century soldiers who possessed, or
were considered to require, formal military education in the technical and professional sense. Their work was vital not only because of the military commander's perennial need for competent cartography, with its concomitant product of reconnaissance, but also because of the era's search for formula solutions to battle and its emphasis on fortification and siegecraft. Given America's circumstances in 1775, it is not surprising that the Revolutionists had to depend heavily for these technicians upon foreign volunteers. In this connection, an added bonus is provided by Walker's profiles of foreign and native engineer officers, often influential but to a large extent little noted in traditional accounts.

This book also brings out the significant point that, initially, engineers were perceived as technical advisers, relying for the actual work of construction or demolition on troops levied from line units. Not until the war was approaching the end of its second year was a requirement for units formed for this specific purpose recognized, and only then when the Army was being reorganized on an expanded and sustained basis.

Of special interest to Pennsylvania readers is the entire chapter devoted to the Philadelphia campaign of 1777–1778. While most of the attention is, properly, focused on the efforts to defend the Delaware River approaches to Philadelphia, the preparations to meet a possible attack on the Valley Forge encampment are also addressed.

The entire study, however, deserves careful attention. Through the special viewpoint it offers it will add a new dimension to the understanding of any serious student of the Revolution.

Pennsylvania Historical and Museum Commission  

John B. B. Trussell


The illustrations of Sherman Day have found their way from his only book, *Historical Collections of the State of Pennsylvania* (1843), into many state and local histories of the Commonwealth. In 1976 the American Philosophical Society was given over two hundred pencil sketches and woodcuts of Pennsylvania scenes made during the 1840s by Sherman Day. The gift prompted this book. Thirty-four pages are devoted to a biography of Day. The rest of the book contains sketches by Day, footnotes, and a bibliography. There is no index.

There is a preface by art historian Dr. Edgar P. Richardson. He speaks of Day's book as his "modest achievement." Later in the text he is quoted as describing "Day's drawings as those of a sensitive amateur." The author in his introduction makes clear that Day did not get much attention during his life or subsequently. A detailed listing of Day's sources for his book is given. However, though Day had sources, Smith deplores his lack of material. Smith notes, "There is no focus in Day's life..." Unfortunately the same thought can be expressed when reviewing this book. It lacks focus.

Somewhere between the gift of Day's drawings and the decision to publish with a biography until final printing, someone—author, editor, publisher—should have said stop. What has been published is just not good enough. Questions about correct mechanics, about style, about organization, and, yes, about meaning jump frequently from the printed pages. One is constantly left
with the feeling that those involved were too engrossed, or too detached, to see the problems that arise.

In general there is a sense that facts have been accumulated, but they have not been well related to one another. Maybe the paucity of material on Day has seemed to force the telling of all that came to hand whether or not relevant to the story at the moment. At times this has done violence to chronology. It has raised all sorts of questions which are not answered. For example, Day was married for forty-one years, but there is little about family life. Then there is a strange tale on page 29 that is to prove him humane, but it's just a strange tale. Also, we learn he had a half-sister married to a brother of Henry Ward Beecher, but how he had a half-sister remains a mystery. Lastly, and illustrative of the nature of so many problems of the book, there is a paragraph on page 24 dealing with his relationships with Washington when he is in California. Day is criticized. He writes a letter. But we don’t know to whom. And we are told he was receiving “scant attention from Washington” while we are informed what Congress was doing to him on two occasions and that he is offered a job in the Sandwich Islands by someone. The paragraph is loaded with questions that either should not have been raised or should have been answered. There are many such paragraphs in the account.

Whether additional research, or more limited writing, would have saved the quality of the book is problematical. As it is, the four-part biography does not help to enhance the drawings of Sherman Day. Furthermore, awkward phrasings, such as “The panic of 1854–55 then occurred stopping all attempts for railroad building for several years” (p. 24) or “Often a creek or a river gave the town its name, or the ferry or ford” (p. 12), detract from the ideas of the book. Also, one can find an error in capitalization, a misspelling, a contradiction. In isolation such slips can be ignored; together with the other lapses the effect of the total is diminished.

Maybe Sherman Day, son of a Yale president, grandson of a signer of the Declaration of Independence, will live as an artist, an author, and as an engineer. Maybe his sketches, his book on Pennsylvania, and his engineering projects are worthy of attention. It is doubtful that this biographical account will much help him attain recognition.

Indiana, Pennsylvania

Clyde C. Gelbach


Pennsylvanians should be thoroughly familiar with stories of William Penn and his relations with the Indians. Celebrated in story and art, the idea of grounding firm relations upon treaties and legal arrangements as well as friendship and brotherhood came to symbolize Quaker humanitarianism and fostered an ideal worthy of emulation elsewhere. Hence, when Jeremiah Evarts took the pen name "William Penn," there could be no mistaking his intent. Through a series of twenty-four essays published widely in 1829, Evarts led the opposition to President Andrew Jackson’s policy of Indian removal.

Evarts was a Vermont-born, Yale-educated, Boston-based crusader for benevolent reform and Christian republicanism. Trained as a lawyer, Evarts’s
visionary ideal of a republic of virtue, coupled with chronically poor health, made it difficult for him to earn a satisfactory living practicing law in early nineteenth-century New England. His decision to edit *The Panoplist* in 1810 led him to a productive career in a myriad of reform causes, including temperance, Bible societies, prison reform, and foreign missions. For more than a decade he directed the operations of the American Board of Commissioners for Foreign Missions. Prucha outlines this career briefly in a short introduction, then focuses on Evarts’s most public commitment, opposition to the Indian Removal Bill of 1830. Evarts was convinced that to forcibly remove the Cherokees from Georgia, against their will and in defiance of existing treaties, was to violate Christian principles, demean the national covenant, and invite divine wrath. His “William Penn” essays were an eloquent and forceful plea for Americans to observe their legal commitments and the principles of humanity. In this cause he drew support from sympathetic readers and politicians in all states, including men like Roberts Vaux of Pennsylvania.

In addition to the “William Penn” essays, Prucha has gathered other of Evarts’s public writings on the removal issue, including memorials, protests, an introduction to a collection of speeches, and other pamphlets. Many of these were issued over other persons’ signatures and from several states, but all bore the imprint of Evarts. He drew on a wide-ranging “benevolent network” to support and disseminate his efforts, to marshall public opposition to removal, and to lobby legislators in Washington. Prucha’s introduction notes the Bostonian’s indefatigable efforts against this removal, efforts that eventually weakened his health and cost Jeremiah Evarts his life. Republication of these pieces is a welcome addition to the literature of Jacksonian America, for many have been difficult to find for some time. Finally, scholars of the period might be amused at the choice of editor, since Prucha and Evarts would never have seen eye-to-eye on this issue.

*Franklin and Marshall College*  

JOHN A. ANDREW, III

*The Irish Relations: Trials of an Immigrant Tradition.* By Dennis Clark.  

“For most people life is local. This was especially true for immigrants in the past...” (p. 11). Thus, studies of ethnic life in specific communities can illuminate phenomena obscured by national patterns. Unlike Boston, New York, and Chicago, for example, Philadelphia, the city examined in this volume, did not domicile an Irish political machine capable of maintaining power over several decades. Although *The Irish Relations* focuses on Philadelphia’s Hibernian past, it is not merely a gloss on Dennis Clark’s earlier work, *The Irish in Philadelphia.* While the latter emphasized topics that traditionally concern ethnic historians, such as the impact of the Great Famine, nativism, and the growth of Catholic institutions, both the subject matter and the methodology of the former are often innovative.

Employing a topical organization, *The Irish Relations* contains five units, each comprised of three chapters. Within chapters the canons of chronology are observed. Exploitation of immigrant labor, the business traditions of the Philadelphia Irish, activities to secure political freedom in the ‘old country,’ Irish relations with other Philadelphia ethnic groups, and efforts to perpetuate
Irish identity form, in sequence, the conceptual framework for distinct units. The author poses seminal questions about abused workers, the shebeen ("drinking place") tradition, travel agents, Saint Patrick's Day celebrations, Gaelic scholarship, Irish organizations, the juxtaposition between moderate and revolutionary impulses within Irish nationalism, and intergroup dynamics. Although Clark's commentary ranges from the eighteenth century to the present, the hundred-year period from the 1830s to the 1930s receives most of his attention.

From the 1830s to 1930s the Irish swelled the ranks of the working class. According to Clark, the Irish "were the group most exploited by industrialization when the process was in its crudest and cruelest stage" (p. 46). The high cost in human terms of technological and industrial progress is one of Clark's central themes. Other historians have depicted, in graphic fashion, the abuses inflicted on Irish males employed in steel mills, textile factories, mines, and the building trades. Nevertheless, Clark brings fresh insight into the wretched conditions under which Irish women and children labored. The author provides convincing evidence that indentured labor, widespread in colonial America, survived in nineteenth-century Philadelphia. All too often circumstances forced indigent Irish parents to sign contracts reducing their children to indentures, who labored for several years in non-Catholic households sans wages. Beyond the trauma of witnessing the exploitation of their children, Irish immigrant women frequently worked in the garment industry, subject to hearing loss from the clatter of weaving machines and serious respiratory problems from fiber particles.

When Clark's focus shifts from the hardships endured by the Philadelphia Irish to their contacts with other ethnic groups, he is less convincing. Despite the success of Ronald Bayor's *Neighbors in Conflict*, few studies of urban ethnicity provide detailed consideration of interaction between several groups. Consequently, Clark, eschewing an insular approach, deserves credit for examining interaction between the Irish and other groups. The author candidly acknowledges persistent rancor between black and Irish residents of Philadelphia, similarities and differences between the two groups, distinctive disabilities born by blacks, and Irish negrophobia. But Clark too readily attributes nearly all Hibernian intolerance to the legacy of "insecurity and resentment generated by a harsh industrial system" (p. 155). Racism in middle-class enclaves is obscured.

Despite the critic's obligatory caveat, specialists and discerning lay readers will succumb to the largess offered by *The Irish Relations*. Clark identifies and utilizes sources—coroners' reports and other public documents, the case records of social service agencies, business directories, oral interviews, the minutes of fraternal and nationalist organizations, school and parish records, private correspondence, and Catholic newspapers—that enable the inarticulate to speak. The author advances the "new social history" by attracting attention to women, children, and other minority groups within the Irish minority. If Clark often lacks definitive answers, he asks questions that set an agenda for students of ethnicity. And Clark's lucid, engaging analysis, leavened with telling vignettes, provides indulgence for his occasional forays into moral didacticism. In Ireland centuries ago clan leaders rewarded bardic historians with honors at formal feasts; Clark also merits special recognition.

*State University of New York at Oneonta*  
WILLIAM M. SIMONS
When the Pennsylvania state legislature granted a charter to the Farmers' High School in 1854, few Pennsylvanians dreamed the school would become the large sprawling institution Penn State is today. But, Professor Bezilla notes, the road to success was long and lined with many hurdles. An initial $25,000 legislative appropriation and $25,000 pledged by private donors permitted the tiny institution to open its doors to sixty-nine students in 1859. But President Evan Pugh was unsatisfied to see the school limit its curriculum to agriculture because, Bezilla notes, Pugh stated in 1862 that “the fundamental idea is to associate a high degree of intelligence with the practice of agriculture and the industrial arts” (p. 2). When Congress passed the Morrill Land Grant Act in 1862, Pugh expected that the Farmers' High School would benefit from the act. Land in the public domain was to be sold and the proceeds used for the agricultural and mechanical arts education instruction in designated institutions. The Morrill Act had profound implications on engineering at Penn State. In 1862 the school was designated the Agricultural College of Pennsylvania and although there were several in-state rival institutions competing for Morrill funds in 1863, the state legislature designated that the funds would go to the Agricultural College of Pennsylvania. Bezilla points out that several other private colleges in Pennsylvania received significant state support while the institution at State College struggled to survive on inadequate state appropriations.

To maintain the fledgling institution its presidents, deans and department heads were often forced to act as lobbyists in Harrisburg. Bezilla presents a vivid account of some of the battles between sorely tried college administrators and the state legislature. Engineering Dean Louis Reber also attempted to obtain private grants. Bezilla highlights the unsuccessful endeavor of Reber to solicit additional funds from philanthropist Charles Schwab in 1904. From this episode the reader becomes aware that private donations were often linked to the prosperity of the business of the donor.

Professor Bezilla documents engineering curriculum changes before and after establishing the School of Engineering in 1895. Utilizing an initial $15,000 appropriation with $1,000 added each year until reaching a $25,000 annual appropriation, under the Second Morrill Act of 1890, President George W. Atherton started a School of Engineering. He selected Reber to be its first dean. As the years passed the college added to its curriculum and Bezilla stresses that the School of Engineering reached out to the people of Pennsylvania by initiating extension and correspondence courses for students not living on campus.

Burdens confronting engineering students and faculty during the two world wars and the Great Depression and measures coping with these hardships are a particularly interesting feature of this book. The ingenuity of hard-pressed Penn State professors and administrators in dealing with forced adjustments is a graphic story of patriotism and self-sacrifice.

Occasionally the School of Engineering allowed its curriculum to become too technical, but this oversight was usually corrected. In the 1930s professors listened when their students complained that “the engineering course is organized wholly around making a living” and that “no attempt is made to
provide even a sketchy background of historical and philosophical knowledge” (p. 133). But in the early years Penn State required many liberal arts courses. Engineering Dean Harry Hammond, Bezilla notes, supported this philosophy and also demanded quality teaching by seeking “new blood” or training to achieve it.

The recent past saw the College of Engineering at Penn State emerge as one of the foremost engineering colleges in the nation. Historically, Penn State has stressed instruction rather than research although there has been significant research in engineering in the modern era. Professor Bezilla notes with pride the well-deserved contributions of the university in training students to take their place in the modern world of technology.

A significant contribution to the belatedly growing volume of material on the history of technological higher education in the United States, this book is a noteworthy achievement.

Missouri Southern State College

Robert E. Smith


When I first saw the title of this book I wondered why anyone would write a history of aviation in Pennsylvania. Then I began to recall the various names associated with the development of aviation in the United States, and realized that a large chunk of such a list comes from Pennsylvania, which contributed immensely to the evolution of general, commercial, and military aviation.

Smith and Harrington recount the role of Pennsylvanians, from Orville Wright teaching General Henry Harley “Hap” Arnold (from Gladwyne) how to fly, to the recent expansion of U.S. Air—based in Pittsburgh. In between these chronological extremes are many careers and corporate entities: the Naval Aircraft Factory in Philadelphia, from 1917 to after World War II; the Navy’s fourth aviator, Victor D. Herbster (West Newton); Holden C. Richardson (Shamokin), Naval Aviator No. 13 who participated in the first trans-Atlantic flight (he got as far as the Azores); General Carl A. “Tooey” Spaatz (Boyertown), pilot with Pershing’s Mexican expedition and World War II commander of Air Corps units in Africa, Europe, and the Pacific; Henry C. Mustin (Philadelphia), organizer and first commanding officer of the Pensacola Naval Aviation Training Base; Harold F. Pitcairn (Bryn Athyn) and Pitcairn Aviation of Philadelphia; Virginius E. Clark (Uniontown), first commander of Wright-Patterson Air Force Base; Congressman M. Clyde Kelly (Pittsburgh), author of the Kelly Airmail Act; Taylor Aircraft (Bedford); Piper Aircraft (Lock Haven); NARCO (Philadelphia), aircraft navigation instruments; Lycoming (Williamsport), aircraft engines; Sensenich (Lancaster), propellers; and McCreary Tire (Indiana), second largest producer of small aircraft tires.

Pennsylvania was at least the godfather of the first trans-Atlantic flight, the NC’s flown in the expedition having been designed at the Naval Aircraft Factory. The Keystone State was the birthplace and home of All American Aviation (now U.S. Air) and of Penn-Central Airlines (later Capital Airlines and now merged with United).

Herbert Veil, of Big Run, Jefferson County, had the most glamorous World
War I career. Joining the French Foreign Legion in 1917, he learned to fly at Pau, France, flew for l'Armée de l'Air before transferring to the U.S. Army, was awarded the Croix de Guerre, and climaxed his career by flying his Spad biplane through l'Arc de Triomphe. But with more élan than last winter’s imitation of the feat; since his plane’s wingspan was wider than the space in the Arch, he had to stand it on its wingtips to pass through.

Pennsylvania produced seven of thirty-five World War II Air Corps generals, including “Hap” Arnold who has been the Air Force’s only five-star rank. Brigadier Jimmy Stewart (Indiana) got his star afterwards in 1959.

The story is well organized into fifteen parts which serve as chapter titles. Least known of these is the short, unhappy life of the autogyro, or gyroplane, which it seemed would be the successor of the fixed-wing aircraft, until the helicopter appeared.

The book represents a comprehensive and exhaustive research job. Also, to tie together so many and often unrelated items would tax the ingenuity of a professional continuity writer. Yet the authors accomplish this without disrupting the narrative.

The work has a bare minimum of editing, printing, and binding errors. I mention four mostly as proof I read it: the phrase “from whence” appears on page ix; Irwin, Pa. is misspelled in the caption under picture no. 22; the PBN had a gross weight of 36,000 lbs., rather than 30,000, page 99; and page 150 made its preview on page 95 in my copy. Trained researchers will be frustrated by the dearth of endnotes, those few listed adding information rather than indicating sources, thus rendering the bibliography nearly useless. And the Lusitania sinking predated our concern over national defense by a year, rather than creating a “radical change” in public opinion (p. 30). Nor did Pershing’s chase of Pancho Villa affect our diplomacy (p. 30).

Students of the history of technology or of aeronautics should include the book in their research, and Pennsylvania history buffs will enjoy it. Readers of my generation will be caught in a prop-wash of nostalgia—“my generation” having learned to fly in Piper Cubs in the CPT program, flown the N2S for primary training, earned single-engine seaplane ratings in the N3N-3, and sat on dozens of Navy parachutes, these last three items all made at the Naval Aircraft Factory. And now I know why the Officers’ Club at Pensacola was named Mustin.

Indiana University of Pennsylvania  MERLE RIFE, Naval Aviator No. 21563


One of the rarest tasks a book reviewer can be asked to undertake is to write a critique of a study of major importance that deals with a subject about which comparable volumes do not exist. This is my pleasurable chore. Preservation Comes of Age is massive, well written, and meticulously researched; and, while there have been many articles about various aspects of the preservation movement, no one before has produced “the one source to go to, if you only have time for one.” Although Dr. Hosmer demonstrates a wide knowledge of the
pertinent literature existent prior to his work, *Preservation Comes of Age* is more than a compilation or a textbook in that in main part it is based on primary sources. The author has used archival and other manuscript materials in forty-four collections including those in the Pennsylvania State Archives, Independence National Historical Park, and the Henry Francis du Pont Winterthur Museum. Additionally, over the years he amassed eighty-five taped interviews which have been transcribed and indexed. Included are discussions with Pennsylvanians Charles Peterson, S. K. Stevens, and Charles M. Stotz. This reviewer experienced an unusual sensation in reading a major historical study which talks about many individuals he knew personally. Most usually historians deal with figures they only know about.

The scope of *Preservation* is national, and because of Dr. Hosmer's extensive primary research even the more familiar sequences have a fresh approach and provide new insights, certainly a remarkable feat when writing about the restoration of Williamsburg. The author's most extraordinary feat, however, has been to trade all of the major threads of the United States government's constantly shifting attitudes toward historic preservation. It comes as a surprise, for example, to realize that it was not until the post-World War II years that the National Park Service came to consider the preservation of historic buildings a legitimate function.

Pennsylvania's state preservation program is one of the five sample state commitments studied extensively. Hosmer, approaching the end date of his study, asks, "Was Pennsylvania the leader among the states in 1949?" His answer, "It is difficult to estimate who was actually in the forefront because the state programs varied so much from one governor to the next and from one legislature to the next." Individual personalities and interests among the powerfully placed amateurs and professionals also played an important role in determining Pennsylvania's (and the other states') role in preservation. The influence of such prominent individuals as Ross Pier Wright, Donald Cadzo, Frances Dorrance, Frank Melvin, and S. K. Stevens are assessed. Most interesting and important from a national perspective is the description of the machinations that led to the rebuilding of Pennsbury Manor. These were events that combined an earnest cast of characters with various degrees of zeal and/or knowledge placed within a *Night at the Opera* scenario. The Pennsbury experience effectively cut off the use of federal monies for any other historical re-creation projects during the depression and cost the Commonwealth "a replica of the first Swedish home in the New World."

 Appropriately, if plainly, illustrated with half-tone photographs and marvelously documented with 162 pages of footnotes, the volumes provide an important overview of the preservation movement, and whet the appetite for more individual studies. In Pennsylvania, in particular, one would like to see a full account of the struggles between the Pennsylvania Historical and Museum Commission and the (old) Department of Forests and Waters or an explanation of why the PHMC ever acquired Warrior Run Church.

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