to match other courthouses, but to exceed them all in quality. How stringent Pittsburgh was in setting architectural standards a century ago! Why should it be any less demanding in its standards of architectural history today?

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The Airway to Everywhere: A History of All American Aviation 1937-1953
By W. David Lewis and William F. Trimble

This book is a definitive account of one of the bravest experiments made in furthering commercial air transport, most specifically the unique air mail distribution system that gave birth in 1939 to All American Aviation, ancestor of today's US Air. This account also includes the story of the system of simultaneous mail pickup and release that was never satisfactorily perfected. Nevertheless, this account is an important vignette of the embryonic period of a leading airline, from its first years as All American Aviation to before it changed its name to the more appropriate Allegheny Airlines.

The joint effort of Messrs. Lewis and Trimble make excellent reading, not least because the language is straightforward and devoid of convicted sentences or fashionable cliches. Only occasionally does a profusion of facts get in the way of a steadily flowing narrative of corporate development, personality clashes, and the interacting negotiations between an inventor, a large corporation and government agencies which fashioned the airline business as we know it today.

Commendably, the narrative pays special attention to the people and personalities who influenced the fertile mind of the feisty inventor, Lytle S. Adams. Claiming an ancestry going back to two U.S. presidents, Adams, like many of his inventive fraternity, became obsessed with his idea: a mechanical device for aerial mail pickup and delivery. Meticulous research by the authors enables us to trace the complex relationships, confrontations and legal battles that ensued as Adams struggled to keep his air mail scheme afloat and to keep his financial head above water.

Prominent in these deliberations was the influence of Richard C. Dupont, of the renowned chemical conglomerate. This intricate involvement is carefully and objectively reviewed, as are the other prominent contributors to the survival of All American, these include Halsey R. Basley, Charles W. Wendt and Robert M. Love, senior executives who sustained the company through difficult times, long after "a lonely, disillusioned inventor (had) hauled away the remains of his dreams in an old automobile."

This is a case study that clearly demonstrates how many ideas in the history of aviation progress that seemed feasible at first, later encountered insurmountable technical difficulties or were merely overcome by events. Adams's scheme faced both. The grappling system that was the technical linchpin of the mechanical device never reached a stage of efficiency that the traditional reliability of the postal service could be ensured; additionally, the development of paved roads to every small hamlet in the United States rendered the system redundant in many of the communities where it had at first been welcomed. During the 1930s and 1940s there was an analogous situation in Mexico, in which a legion of tiny airlines used to provide indispensable service to isolated villages, but, as the enterprising pioneers explained, "the moment the first jeep got through, we were finished." And so it was with the Adams system, when the first post office van began to pick up the mail everyday using the new roads, the All American Aviation service and the Adams invention, were doomed.

My complaint about this fascinating book is that it could have been so much better. In this era of mass media communication, to be able to sit down with a good book for a whole evening, leisurely digesting it, is a rare experience. Today's books need embellishment, not for their own sake, but to relieve the test of possible monotony, and to explain and thereby stimulate interest. A picture, 'tis said, is worth a thousand words; but this is true only if the picture is a good one. The selection in this book is often puzzling; for example, nothing is explained about an illustration of a collection of equipment that looks as though it had all fallen off a shelf in the garage.

Because of the vital importance of the Adams grappling and releasing mechanism, the book cries out for explanatory diagrams. One good diagram would have been worth two thousand words, but there are none. Equally, as the painful fashioning of the various meandering airmail route networks unfolds, the text demands maps. Not until page 136, however, does one appear, somewhat surprisingly, and by this time it is too late, as this is almost the end of the story. The lengthy description, on page 87, for example, of the points served on A.M. Route 49, is no substitute. It simply challenges the reader to pick up an atlas and exercise map-reading skills.

But this should not be a game of Trivial Pursuit. Why, may I ask, did not the proofreader, copy editor or the editor himself at the
University of Pittsburgh Press detect these shortcomings and do something about them? The reason, I fear, is because all too many publishers these days — and the "scholarly" ones are the worst offenders — seem unable to distinguish between a learned thesis, intended for submission, say, for a degree, and a book for public consumption, to be read for instruction, and, dare I suggest, enjoyment. Publishers seem obsessed with footnoting to the exclusion of almost every other consideration, including readability.

Nothing annoys me more in the enjoyment of a good book — and this is a good book — than to find the text punctuated every few lines with annotations. Were these true footnotes, i.e. at the foot of the page, conveniently, I would not mind glancing down every now and again — though this kind of staccato activity is not conducive to reading pleasure. But this book has all the notes at the end and the reader has to thumb through the pages constantly, losing the place as often as discovering that the note is trivial, superfluous, or worse, that it should have been included in the text and was only shoved in as an afterthought.

If the University of Pittsburgh Press had been fastidious in choosing and reproducing the photographs on better paper, or had been as enthusiastic about including proper maps and diagrams as they were in compiling 16 pages of notes, the *Airway to Everywhere* could have been more than a good book. It could have been a great book of aviation folklore, entertainment, and instruction, as well as being highly readable. As it stands — and I blame the publisher more than the authors — I fear that many potential readers will be deterred by the absence of supporting exhibits. And this is a tragedy because Lewis and Trimble are a good team who respect the King's English. I hope that with their next book, their publisher will do them justice.

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**What's a Coal Miner to Do?: The Mechanization of Coal Mining**

By Keith Dix

**DEFINING** technology as a sociohistorical process, Keith Dix examines the technological transformation of the United States bituminous coal industry during the 1920s and '30s. More specifically, he documents the invention, development and widespread adoption of the coal-loading machine, emphasizing its impact "on the social relations of production and on the quality of working life" (page ix).

Building upon his previous study of the coal industry, *Work Relations in the Coal Industry: The Hand-Loading Era, 1880-1930* (West Virginia University, 1977), Dix shows that the early miner was essentially a skilled craftsman. Despite the growing use of undercutting machines during the hand-loading era, miners "largely controlled the production process," through their control of crucial underground skills, through day-to-day worker activism, and increasingly through local and district unions of the United Mine Workers of America. Dix argues that although coal operators developed a variety of strategies for overcoming the miners' control, including company-owned housing and stores, the coal companies largely raised essential capital and marketed the coal, but left numerous day-to-day decisions to the miners.

Under the highly competitive conditions of the 1920s, and especially during the depression of the 1930s, coal operators increasingly mechanized their mines. Dix convincingly demonstrates that their efforts resulted in the growing adoption of the coal-loading machine, ended the hand-loading era, and radically transformed the work process and the social relations of production. Adoption of the mechanical coal loader enabled mine owners to not only reduce their work crews but to concentrate their workers around the machine, to heighten day-to-day supervision of the work force, and to profoundly undermine the miners' freedom. As machines increasingly replaced miners at the center of the work process, "management could more effectively direct the work force in much the same way that workers were disciplined in the modern factory" (x).

Despite the triumph of mechanization in the bituminous coal industry, Dix pointedly argues that it was not a linear process. It was a dynamic historical process, reflecting the complex interplay of capital, labor and the state. Indeed, before the new technology could gain its commanding sway over the industry, coal operators had to undercut the miners' traditional autonomy. Helping to accomplish this feat, he shows in close detail, was the convergence of a multiplicity of forces: i.e., the rise of John L. Lewis (who took a very sympathetic attitude toward mechanization) to the presidency of the United Mine Workers of America; the expanding role of the state under New Deal bituminous coal mining legislation; and especially the growth of a vigorous capital goods industry in coal mining machinery and equipment. The most successful of the coal-loading machines was the Joy coal loader, which inspired numerous coal mining songs, including the