

lenged FDR's New Deal. While an inveterate opponent of isolationism, his idealistic internationalism was articulated in vague and simplistic terms. He neither anticipated the advent of the Cold War nor fully understood the interventionist repercussions of his avowed globalism. To his credit Willkie did help reorient the GOP, making it easier for Dwight Eisenhower to defeat Robert Taft for the 1952 Republican presidential nomination. Willkie is truly to be commended for his courageous stand on civil rights (as should Henry A. Wallace) at a time in the 1940s when most white politicians ignominiously avoided the issue.

These original essays are incisive and provide a good synthesis. They are illuminating, adding to our understanding of how certain figures influence the course of American history. Willkie's utopian dream of one world may never come true, but his efforts to promote international cooperation have borne fruit. That was his most notable legacy.

*Agricultural Technology in the Twentieth Century*, by R. Douglas Hurt. Manhattan, KS: Sunflower University Press, 1991. 106 pp. Illustrations, maps, notes, index. \$15.00 paper.

REVIEWED BY WAYNE RASMUSSEN, AGRICULTURAL HISTORY SOCIETY

The chapters making up this book, with an epilogue added, were first published as an issue of the *Journal of the West*. However, the issue is well worth publication as a separate volume. The author approaches his subject with six topical chapters: the tractor, cotton pickers and strippers, combine harvesters, irrigation in the West, mechanizing the sugar beet harvest, and tomato harvesters. An introduction provides a summary of the overall mechanization of agriculture. The epilogue notes some of the results of this mechanization.

The chapter on tractors points out that by the early 1900s farmers needed a more consistent power source than horses and mules as well as a more suitable and economical source of draft power than the steam engines that had come into use during the last quarter of the century. Hurt traces the development of the internal combustion tractor as it met this need. The first successful one was built by John Froelich of Iowa. However, much additional work was needed before Hart-Parr and other companies began producing tractors in large quantities about 1910. It was not until after World War I that the Fordson and Farmall tractors, small and maneuverable enough to be used with row crops, were widely

adopted on midwestern farms. Hurt points out that the tractor became the key to mechanization on the farm and helped cause the industrialization of agriculture and the development of the modern agribusiness industry. A number of excellent illustrations add to the value of the chapter as they do to other chapters.

Cotton pickers and strippers are of little concern to midwestern farmers. The same comment might be made regarding tomato harvesters, although they are used in limited areas. New plant varieties had to be developed for the cotton harvester and the tomato picker to succeed. The author notes that the tomato harvester was used in the Midwest to prevent the growth of a strong union among migrant workers.

The sugar beet crop remained one of the last field crops to be completely mechanized. The first extensive experimental work on a beet harvester began in the mid-1930s. By the early 1950s, the sugar beet harvest had been entirely mechanized. California led the way, but the Midwest was not far behind in adopting the new labor-saving technology.

Irrigation technology spread from the West Coast to the Great Plains and the Southwest, although some of the Indians of the Southwest practiced irrigation as early as A.D. 800. Irrigation is not widely practiced in the Midwest, even though some farmers have installed systems as insurance against drought.

Combine harvesters were widely used by West Coast grain farmers during the last quarter of the nineteenth century and spread to the wheat regions of the Great Plains after World War I. Corn combines, as well as wheat combines, were not widely used in the Midwest until after World War II. Part of the problem was that effective grain dryers had to be developed for the midwestern crops. The small, self-propelled combine came into wide use during the 1960s.

In his epilogue, Hurt takes a look ahead and sees computers having a major role in farm operations. New and improved technologies will enable fewer farmers to increase productivity and to keep more land in production. As in the past, however, technology will have social costs. There will be fewer farmers and a declining rural population. Costs of the new technologies will make it impossible for many small farmers to continue their operations with the result that there will be fewer and larger farms. At the same time, properly managed and developed, new forms of agricultural technology will enable farmers to maintain high productivity and to improve the quality of rural life.

Hurt uses published histories for most of his data and cites census reports and similar material. He makes limited use of manuscripts from midwestern collections and draws upon many sources for his outstanding illustrations. The book is an excellent introduction to a subject that will draw more attention in coming years.

*Waucoma Twilight: Generations of the Farm*, by Dona Schwartz. Smithsonian Series in Ethnographic Inquiry. Washington, DC: Smithsonian Institution Press, 1992. x, 164 pp. Illustrations, tables, references, index. \$24.95 paper.

REVIEWED BY DEBORAH FINK, AMES, IOWA

Rural communities across the country have been losing population, many to the point of dissolution. *Waucoma Twilight* portrays a rural Iowa community undergoing the changes that continue to transform rural culture. Dona Schwartz, a photographer and journalist, took a series of photographs depicting work, civic, and leisure activities in Waucoma and asked the people to reflect on them. The book presents a collection of 220 black-and-white illustrations; much of the text consists of transcripts of taped interviews with members of five farm families with roots of varying length in the area. Some written accounts, old photographs, and census materials are used, but the book's history comes largely through recollections of young and old adults living in the community in the years from 1985 to 1987 when Schwartz was photographing and interviewing.

Schwartz, linked to a local family by marriage, puts herself in the narrative, clarifying her involvement in shaping the emerging picture. She identifies social institutions—Waucoma itself, families, clubs, churches, and farms—which become chapters of the book. Chapters on auctions, leisure, and the rural-urban continuum document other aspects of the culture. The emphasis throughout the text is on change: how it was when the interviewee was young, how it is now, feelings about the change, and plans for the future.

*Waucoma Twilight* does not project the traumatic farm crisis image that dominated the media in the 1980s. With the contrasting understandings of the generations, the insiders' views of change become plausible and real to the reader. While older people tend toward nostalgia for the past, the few who are under 40 express more prosaic realities: "I don't try to attach that much sentiment to anything, because I'm just going to try to survive," says a 32-year-old Iowa State University graduate who returned to Waucoma to farm (131). The values of the American cultural mainstream have

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