

Fordson, Farmall, and Poppin' Johnny: A History of the Farm Tractor and Its Impact on America, by Robert C. Williams. Champaign: University of Illinois Press, 1987. ix, 232 pp. Illustrations, notes, bibliography, index. \$24.95 cloth.

Throughout much of its history American agriculture has been characterized by an abundance of land and a relative scarcity of labor. As a result, American farmers readily accepted technological innovations in an attempt to increase production. This mechanization of American agriculture was characterized by two complementary trends. The first was the development of machines—for example, the steel plow, the reaper, and the thresher—that could more efficiently do the tasks essential to farming. The second major trend was the introduction of new power sources. Prior to 1850, power on American farms came largely from humans. From 1850 to the early twentieth century a tremendous increase in the number of draft animals made this the era of animal power. From the early twentieth century to the present, the adoption of steam, gasoline, and electric motors has made this the mechanical power era. Robert Williams has surveyed the origin and impact of what he considers the most important technological innovation in the mechanical power era, the tractor. His story is about the “ordinary” wheeled farm tractor; industrial, other nonagricultural, and even track-type tractors—a small part of the farm fleet—are only mentioned in passing. Foreign tractors and manufacturers, other than Canadian, are noted only as they have impact on American development.

The first two-thirds of the book is devoted to the origin and development of the tractor. Williams postulates a three-stage development leading to the modern tractor. In the first stage (roughly the 1890s to 1910), individuals working in small shops tried to create a workable machine. A substantial portion of this work was done in Iowa. The first mechanically successful tractor was built by Iowan John Froelich in 1892. Froelich had little if any subsequent impact on tractor development, but the company he founded later became a part of Deere and Company. The first successful commercial tractor was produced in Charles City, Iowa, by Charles W. Hart and Charles H. Parr. The Hart-Parr tractor was the most popular one in the first decade of this century; Williams asserts that Hart and Parr earned the right to be considered founders of the gasoline tractor industry. In the second stage (1910–1940), attention was focused on perfecting a smaller, versatile machine suited to the average farm and able to be used in all phases of farming. A first step was the introduction of Henry Ford's Fordson. The Fordson, though a flawed machine, did usher in the era of mass production of tractors, making the machine available to more farmers.

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The International Harvester Farmall was more versatile and opened row-crop farms to tractor use. Capping developments in this period was the introduction of the small tractor, such as the Allis-Chalmers Model B, making the tractor adaptable to virtually all farms. In Williams's third stage, the period since 1940, manufacturers simply refined an already workable machine. Tractors grew larger and became more convenient and comfortable for the operator but remained the same in essence.

The last third of the book is devoted to the social and economic consequences of the tractor. Because it seemed to offer much—a reduced workload, shorter workday, increased profitability, and higher social standing—the tractor gained widespread acceptance. It did fulfill these expectations for many individuals, but at a cost—increased physical danger and greater financial worries. The adoption of the tractor also resulted in heavy costs to society. It displaced labor, thus contributing to the depopulation of the American countryside. As rural Americans moved to the city, capital migrated with them because of the increased ownership of farms by urban dwellers. The result was a deserted countryside with weakened institutions. While the tractor was not the only cause of this problem, Williams asserts that it was a major one. Williams's story is all too familiar—technological change in the absence of wise planning can bring benefits to some but at a high cost to society. In this case, public policy—a farm policy that helped giants grow at the expense of the family farm—aided rather than mitigated the adverse impact of the tractor on rural society.

Although of great importance to American agriculture, the gasoline tractor has not attracted historical attention equal to its stature. Notable previous studies, such as R. B. Gray's *Development of the Agricultural Tractor in the United States* (St. Joseph, MI, 1974), have been illustrative chronologies, stressing the mechanical details of various models but not assessing the machine's impact on agriculture and society. Williams's book does an admirable job in filling this void. His coverage of the origin and development of the tractor is thoroughly researched and well written and should serve as a reference point for scholars who wish to delve deeper into aspects of the subject. His coverage of the impact of the tractor is thought-provoking and is essential reading for all who want to understand one of the structural underpinnings of the present crisis in American agriculture.

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