

Worster's *Rivers of Empire* (1985). But he does note that even Hayden recognized that new environmental voices against dam building, especially in the Grand Canyon, presaged the need for alternative sources of power to pump the water for the new Central Arizona Project. Underlying this account of Hayden's life, ending in 1972, is the message: neither Hayden nor author would sacrifice the benefits of the western dams for the return of natural river systems. This choice would leave lands and cities without the wherewithal to produce and exist.

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*The Bottom Rung: African American Family Life on Southern Farms.* By Stewart E. Tolnay. Urbana: University of Illinois Press, 1999. 296 pp., \$45.00, hardback, ISBN 0-252-02435-4; \$19.95, paperback, ISBN 0-252-06745-2.

Much of *The Bottom Rung* will be familiar to historians of twentieth-century southern agriculture. It tells the story of the formation, reproduction, and work patterns of southern African American farm families. What *The Bottom Rung* does in a new and fresh way is to bolster narrative evidence with quantitative verification. Author Stewart Tolnay, a sociologist and demographer, demonstrates the power of the data set known as the Integrated Public Use Microdata Series (IPUMS). IPUMS combines the data from so-called public-use samples compiled from every decennial U.S. census and provides "national-level information with which to trace longitudinal patterns for a wide variety of personal and household characteristics, including family patterns" (p. 182). The author uses data from 1910 and 1940 to track change over time.

Tolnay uses well-known secondary literature to outline African American participation in agriculture from slavery to the present and to examine work patterns in agricultural labor. The strength of IPUMS becomes evident as the author presents quantitative data, for example correlating the percentages of children enrolled in school with the percentage of children reporting an occupation to demonstrate the overlap of children's work and their schooling. The change between 1910 and 1940 shows the decreasing significance of children as agricultural laborers.

Tolnay's discussion of marriage patterns examines factors that "likely encouraged early marriage and discouraged permanent non-marriage in the farm South" (p. 65). Historians have long known that most southern farm people married young; Tolnay verifies that statistically. Parenthood usually quickly followed. African American families were large, with 48 percent of the families in 1910 having more than ten children. By 1940 that number had dropped dramatically. Examining conflicting sociological theory, Tolnay argues that child-bearing patterns have multiple causes.

IPUMS demonstrates the stability of the farm family, which was far more likely to be broken by death than by divorce or separation. Most children lived with both parents, and fewer than 1 percent of African American mothers were unmarried. Examining migration patterns during the late 1930s, the author finds that most families migrated within a thirty-mile radius. Bringing the subject to the present, he concludes with a discussion of African American moves to the city, arguing that the current urban situation is not a result of immigration from the rural South. Tolnay thus refutes the findings of those who would blame slavery for the current perceived instability in the African American family.

Overall, *The Bottom Rung* is a fascinating look at the statistical evidence on African American rural life. It is generally well written, only occasionally lapsing into social-science jargon. The secondary literature is rather dated, using many sources from the 1980s. There are some problems with sampling; for example, no one should ever count Pecos and Crockett counties in Texas as southern. And there are some arguable points, such as the conflation of sharecropping and plantation agriculture. Despite these lapses, there is much to like in *The Bottom Rung*—and much for historians to learn in using IPUMS as a powerful research tool.

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*Uphill Against Water: The Great Dakota Water War.* By Peter Carrels. Lincoln: University of Nebraska Press, 1999. 247 pp., \$45.00, hardback, ISBN 0-8032-1496-0; \$23.00, paperback, ISBN 0-8032-6397-X.

Author Peter Carrels witnessed numerous events recounted in his book about a controversial aspect in the history of federal management along the