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Returning the Wolf to the Northwest

The U.S. Fish and Wildlife Service began reintroducing wolves to the wilderness areas of Yellowstone National Park and central Idaho in 1995. Based on the experiences of other areas and surveys of recreational users, increased visitor expenditures are expected to accrue to nearby communities as wolf populations are recovered. Decreased expenditures by hunters and increased livestock losses by ranchers may be more than offset by increased visitor expenditures, according to U.S. Fish and Wildlife Service estimates.

RETURNING wolves to suitable habitats in the lower 48 States continues to be a controversial issue. Proponents include conservationists and members of the general public who support preserving a diversity of wildlife species in natural habitats in sufficient populations and dispersion to avoid the threat of extinction. Opponents include livestock producers who view wolves as threats to their animals and grazing rights on public lands. Some people are concerned that protection of wolves and their habitat would restrict timber harvesting, mining, and road building. Still others are concerned that wolves would diminish big game hunting, attack people and pets, or threaten outdoor activities. Contrary to popular belief, however, wolves tend to avoid humans and there are no documented attacks on humans by wild, healthy wolves.

In 1995, gray wolf reintroduction programs began in the wilderness areas of Yellowstone National Park and central Idaho. The environmental impact statement published by the U.S. Fish and Wildlife Service provides estimates of the effects the reintroduction may have on the economies of the surrounding rural areas. Research on wolves in other areas provided much of the information used to generate the Yellowstone and central Idaho estimates.

Wolves Once Ranged Widely and Are Being Reintroduced in Several Areas

Wolves were once one of the most widely distributed land mammals on earth. In North America, gray wolves

(*Canis lupus*) historically inhabited almost every area north of what is now Mexico City. However, as European settlers decimated the wild hoofed animals and replaced them with livestock, wolves and other large predators that occasionally attacked livestock were eradicated (Bangs and Fritts).

Local governments and ranchers first offered bounties for wolves in the 1870's. In Montana alone, 80,730 wolves (probably including many coyotes) were killed for bounty between 1883 and 1918. In 1914, responding to lobbying pressure from livestock interests, Congress passed legislation requiring the removal of wolves from all public lands. Federally supported predator control programs, using bounty systems and strychnine poisoning methods, peaked in the early 1920's in national parks and national forests (Heck). By 1930, the gray wolf had been eradicated from the Western United States.

Wolves gained Federal protection under the Endangered Species Act (ESA) of 1973 (see "Significant Steps in the Evolution of the Endangered Species Preservation Act and Wolf Recovery," p. 26, for more details). Wolf recovery planning began shortly thereafter. Influenced by ESA amendments in the late 1970's and 1980's, wolf recovery projects have included:

- facilitating natural recovery of the gray wolf in northwestern Montana since the mid-1970's,
- facilitating natural recovery of the eastern timber wolf in northeastern Minnesota, northern Wisconsin, and the upper peninsula of Michigan since the mid-1970's,
- reintroduction of the red wolf in eastern North

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Carolina and western Tennessee, including in the Alligator River National Wildlife Refuge and the Pocosin Lakes National Wildlife Refuge since 1987 and in the Great Smoky Mountains National Park since 1991, and

- reintroduction of the gray wolf in Yellowstone National Park and central Idaho beginning in 1995 (fig. 1).

A reintroduction plan for the Mexican wolf was approved by the directors of the U.S. Fish and Wildlife Service and the Mexican Dirección General de la Fauna Silvestre in 1982. The Fish and Wildlife Service released a draft environmental impact statement in June 1995 and proposed Mexican wolf reintroduction areas in Arizona and New Mexico. A final environmental impact statement is planned for release in summer 1996, and a decision on Mexican wolf reintroduction will follow no sooner than 30 days thereafter.

The Fish and Wildlife Service, in consultation with the National Park Service, the Forest Service, and State agencies, led the red and gray wolf reintroduction projects. The eastern timber wolf recovery program is built on natural wolf dispersal and population growth, not on the reintroduction of wolves by any Federal or State agency or conservation group.

Economic Effects of Reintroducing Wolves in Yellowstone and Central Idaho

Although the wolves were released on Federal land in Yellowstone and central Idaho, they may range beyond Federal boundaries. Thus, the analysis areas include privately owned land surrounding the wolf release sites. Most of the land designated for gray wolf reintroduction in the two areas is federally owned, 76 percent in the Yellowstone area and 99 percent in central Idaho (table 1).

Figure 1

Wolf recovery areas

Idaho, Montana, and Wyoming contain the Yellowstone and central Idaho gray wolf reintroduction analysis areas; Michigan, Minnesota, and Wisconsin have areas of natural recovery for the eastern timber wolf; and Great Smoky Mountain National Park on the North Carolina-Tennessee border and the Alligator River National Wildlife Refuge on the North Carolina shore are red wolf reintroduction sites



Note: Locations are approximations.

Source: Created by ERS using information from the U.S. Fish and Wildlife Service.

A third of the public land is open to grazing, and just over half of the land is open to motor vehicles. Both areas are sparsely populated with the Yellowstone area averaging 5.2 people per square mile and the central Idaho area averaging 2.6 people per square mile. Less than 10 percent of local income comes from farming and agricultural services, but over half of farm income in each area comes from livestock.

The Fish and Wildlife Service estimated the economic effects of reintroducing wolves into Yellowstone and central Idaho in its environmental impact statement. The statement included the alternatives of reintroduction of wolves, natural recovery of wolves, and no wolves. The no wolves alternative would have had no local area effects, and the natural recovery's effects were estimated to vary little from the reintroduction method's effects, except natural recovery would have taken 10 to 20 years longer than the reintroduction method to get wolf populations up to the recovery level of 100 in each area. The Fish and Wildlife Service estimates wolf recovery in both

Yellowstone and central Idaho by 2002 under the reintroduction program.

According to the wolf reintroduction estimates, resident wolf packs could reduce big game populations (deer, elk, bison, and moose) which could reduce the numbers of big game harvested by hunters. Decreased hunter benefits would then dampen hunter expenditures. Livestock could be lost which would decrease revenues to ranchers. But, increases in tourist visits and visitor expenditures for food, lodging, and other goods and services may more than offset all these losses.

Decreased hunter benefits could total between \$187,000 and \$465,000 annually in the Yellowstone area and between \$757,000 and \$1.1 million annually in the central Idaho area (table 2). With lower benefits, fewer hunters would come to the areas and those who came might shorten their stays. Consequently, annual hunter expenditures in the areas are estimated to decrease between \$207,000 and \$414,000 in Yellowstone and between \$572,000 and \$857,000 in central Idaho. Losses of sheep

Table 1

Characteristics of the Yellowstone and central Idaho wolf reintroduction areas

Most land in the areas is federally owned with over half open to motor vehicles

Item	Unit	Yellowstone	Central Idaho
Land:			
Acres	Million acres	16.0	13.3
Federally owned	Percent	76	99
National Park, Wilderness, or Wildlife Refuge	do.	41	30
Privately owned	do.	21	trace
State-owned and other	do.	3	trace
Public land uses:			
Open to grazing	Million acres	4.0	4.4
Suitable for timber harvest	do.	1.5	5.0
Timber harvested or planned for harvest	Thousand acres	28.0	41.1
System trails/roads	Miles	13,457	20,346
Roads/trails open to motor vehicles	do.	8,057	9,541
Area not open to motorized use	Percent	44	44
Estimated hiking trails	Miles	4,643	13,105
Recreational visits to Federal land per year	Million	14.5	8.0
Population and income:			
Population, 1990	Thousand	288.0	92.4
Density	Per square mile	5.2	2.6
Total income, 1990 ¹	Billion dollars	4.2	1.4
Local services ¹	Percent	40	34
Unearned ²	do.	34	33
Nonfarm industry ³	do.	20	25
Farm and agricultural services	do.	6	8
Share of farm income from livestock, 1987	do.	55	65
Per capita income, 1990	Dollars	14,676	15,552

¹Local transportation and utilities, retail trade, finance, insurance, real estate, services, and State, local, and Federal civilian governments.

²Investments, entitlements, and retirement income.

³Forestry, fisheries, mining, construction, manufacturing, other transportation and freight, wholesale trade, and Federal military enterprises.

Source: U.S. Department of the Interior, Fish and Wildlife Service, *The Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho*, May 1994.

and cattle are estimated to cost ranchers in the Yellowstone area between \$2,000 and \$30,000 per year and to cost ranchers in the central Idaho area between \$3,000 and \$19,000 per year. These estimates of hunter benefit and expenditure decreases and livestock losses are based on big game and livestock taken by longer established wolf packs in Montana and Minnesota and in Alberta and British Columbia, Canada. The established packs took widely differing numbers of big game and livestock from year to year and from area to area, so the estimates for Yellowstone and central Idaho reflect the range that might occur in any given year. Even at the high end of the estimates, the livestock losses are relatively small compared with livestock numbers in the areas. And, if producers are compensated for livestock lost to wolves, economic losses to producers could be negligible.

A possible cost of wolf recovery that is not reflected in the estimates involves the restriction of human activity within 1 mile of release sites and active dens. Release sites are located in semi-remote areas, away from visitor facilities, where the restricted areas are not expected to affect visitor use. Since wolves tend to avoid human activity, they would likely den in areas not usually frequented by the public. Den area restrictions will be in effect April through June, while dens are in use, and when visitor activity is generally low. Consequently, the land use restriction to protect denning wolves appears to create lit-

tle or no impediment to visitor use. Timber harvesting on national forests may be delayed if proposed during the den months of April through June, but that should also create little impediment to logging.

Management costs incurred by the Fish and Wildlife Service are expected to be \$480,000 per year in each area. These costs include preparing confinement and release facilities; capturing, transporting, confining, and releasing wolves; monitoring released wolves and the packs from which they came; enforcing the laws that protect the wolves; and controlling the wolves after release.

The estimated \$23 million increase in annual visitor expenditures in the Yellowstone area far exceeds the estimated decrease in hunter expenditures and increases in rancher and government costs in that area. This increase in expenditures is based on a 1993 survey in which more respondents indicated that they would visit Yellowstone more frequently if wolves were present than respondents who said they would visit less frequently. A similar survey was done in the central Idaho area. Lack of information on the expenditures the average visitor makes in that area, however, kept the Fish and Wildlife Service from estimating the amount of increase in expenditures more frequent visits to the area would generate. Visitor-use and expenditure data collected from the recovery areas as wolf recovery proceeds should give researchers and decisionmakers better estimates of the economic costs and benefits of fully recovered wolf packs in the areas.

Another indicator of the positive economic effect of wolf recovery is the estimate of the value people assign to the existence of wolves in the areas. This existence value was determined from a survey in which respondents were asked how much money they would be willing to contribute to trust funds that either supported or opposed the recovery of wolves in the Yellowstone and central Idaho areas. Supporters outvoted those opposing recovery in both areas. After deflating everyone's responses to 28.6 percent of the amount they said they would contribute (deflating is a standard practice in the study of valuation which recognizes that people often pledge much more than they actually contribute), the supporters would contribute \$8 million more than the opponents for wolf recovery in each area. Again, these estimates suggest that wolf recovery has positive value, but not the exact magnitude of its value.

Conclusions

Introducing wolves into new terrain, through capturing, moving, and releasing them or through allowing natural expansion of existing populations, revives challenges of human coexistence with wolves. The presence of wolves may decrease the population of big game, decreasing hunter harvests, benefits, and expenditures. Wolves may

Table 2

Estimated economic effects of wolf populations in Yellowstone and central Idaho areas

Increased visitor expenditures are expected to far exceed lost hunter expenditures, costs of lost livestock, and government management costs

Item	Annual change due to wolf recovery
	Thousand dollars
Hunter benefits	
Yellowstone	-187 to -465
Idaho	-757 to -1,100
Hunter expenditures	
Yellowstone	-207 to -414
Idaho	-572 to -857
Livestock depredation	
Yellowstone	-2 to -30
Idaho	-3 to -19
Wolf management costs	
Yellowstone	480
Idaho	480
Visitor expenditures	
Yellowstone	23,000
Idaho	some likely

Source: U.S. Fish and Wildlife Service, May 1994.

also inflict livestock losses and require increased management. Countering these negative effects, adding wolves to national parks and wilderness areas would likely increase visitor expenditures in the local economy.

Actual experience of repopulating and managing wolves in the two areas will produce depredation data and provide the opportunity for development of management techniques and strategies that accommodate livestock producers and big game hunters. The economic effects can then be measured in these recovery areas based on their own data, rather than having to be estimated from other recovery areas' data. Experience gained from these new wolf reintroduction projects and the earlier ones will support future decisionmaking on where, when, and how to reintroduce or promote natural recovery of wolves, if at all.

For Further Reading. . .

E. E. Bangs and S. H. Fritts, "Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho," *Endangered Species Technical Bulletin*, Vol. XVIII, No. 3, U.S. Fish and Wildlife Service, June-Oct. 1993.

J. A. Heck, *Reintroduction of Wolves*, CRS Report for Congress, 92-524 ENR, The Library of Congress, Congressional Research Service, June 24, 1992.

U.S. Fish and Wildlife Service, *Federal and State Endangered Species Expenditures*, FY 1989-1993.

_____, *Recovery Plan for the Eastern Timber Wolf*, Twin Cities, MN, 1992.

_____, *Reintroduction of the Mexican Wolf Within its Historic Range in the Southwestern United States*, Draft Environmental Impact Statement, Albuquerque, NM, June 1995.

_____, *Report to Congress—Endangered and Threatened Species Recovery Program*, Washington, DC, December 1992.

_____, *The Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho*, Final Environmental Impact Statement, Gray Wolf EIS, Helena, MT, May 1994.

Significant Steps in the Evolution of the Endangered Species Act and Wolf Recovery

1966 P.L. 89-669 *The Endangered Species Preservation Act*

This law allowed listing of only native animal species as endangered and provided limited means for their protection by the Departments of the Interior, Agriculture, and Defense. Habitats of listed species were to be preserved, and land acquisition for protection of endangered species was authorized.

1969 P.L. 91-135 *The Endangered Species Conservation Act of 1969*

Protection was extended to species in danger of "worldwide extinction." Import and subsequent sale of such species was prohibited within the United States. This act called for an international ministerial meeting to adopt a convention on the conservation of endangered species.

1973 P.L. 93-205 *The Endangered Species Act of 1973*

U.S. and foreign species lists were combined, with uniform provisions applied to both. Categories of "endangered" and "threatened" were defined. Plants and all classes of invertebrates were eligible for protection. All Federal agencies were required to undertake programs for the conservation of endangered and threatened species. Broad taking prohibitions were applied to all endangered animal species. Matching Federal funds became available for States with cooperative agreements.

1978 P.L. 95-632 (*amendments to Endangered Species Act*)

Federal agencies were allowed to take action that would jeopardize listed species if the action was approved by a cabinet-level committee ("God squad"). Critical habitat was required to be designated concurrently with the listing of a species. The secretaries of the Interior and Agriculture (for the Forest Service) were directed to develop a program for conserving fish, wildlife, and plants including listed species, and land acquisition authority was extended to such species.

1982 P.L. 97-304 (*amendments to Endangered Species Act*)

The status of species would be decided solely on biological and trade information, without regard to economic or other effects. Some populations of listed species could be designated "experimental" and treated differently under the ESA.

1988 P.L. 100-478 (*amendments to Endangered Species Act*)

Monitoring of candidate and recovered species was required, with adoption of emergency listing in the event of significant risk. Recovery plans will receive public review. Recovered species will receive 5 years of monitoring. Biennial reports are required on recovery plans and on species with plans. State and Federal recovery expenditures on a species-by-species basis will be reported annually to Congress.

Federal and State Expenditures on Wolf Recovery

Public Law 100-478 (October 7, 1988) amended the Endangered Species Act and made more specific the general requirement that the Interior and Commerce secretaries develop and implement recovery plans. The secretary of the Interior delegated responsibility for endangered and threatened species recovery to the Fish and Wildlife Service. The Service works to develop partnerships that promote recovery at the Federal, State, and local levels (Fish and Wildlife Service, Dec. 1992, pp. 4,7). From fiscal year 1989 through fiscal year 1993, Fish and Wildlife expenditures on red, gray, Mexican, and eastern timber wolves have ranged from \$1.2 to \$2.4 million. Adding other Federal and State expenditures increases the annual total expenditures to \$2.8 to \$4.5 million.

Federal and State endangered species expenditures on wolves

Fiscal year	Gray wolf		Red wolf		Mexican wolf ³ FWS ¹	Eastern timber wolf ³ FWS ¹	Total wolves	
	FWS ¹	All ²	FWS ¹	All ²			FWS ¹	All ²
Thousand dollars								
1989	654	2,205	446	474	5	104	1,209	2,788
1990	802	2,218	665	764	2	121	1,590	2,984
1991	1,513	2,447	665	980	150	62	2,390	3,577
1992	1,133	2,260	686	662	150	99	2,068	3,171
1993	1,120	3,226	711	1,044	150	73	2,054	4,493
1994	1,014	NA	991	NA	403	99	2,507	NA
1995	886	NA	600	NA	499	51	2,036	NA
1996 ⁴	651	NA	900	NA	433	61	2,045	NA

¹FWS = U.S. Fish and Wildlife Service.

²Federal and State endangered species expenditures.

³Estimate of recovery dollars only.

⁴Estimated or projected expenditures.

NA = Not available.

Sources: Compiled by the author from U.S. Fish and Wildlife Service budget documents and unpublished information provided by U.S. Fish and Wildlife Service personnel.

Compiled by Karen Hamrick and Dennis Roth

Essay

The Most Southern Place on Earth: The Mississippi Delta and the Roots of Regional Identity

James Cobb. New York: Oxford University Press, 1992. 391 pages. ISBN 0-19-508913-8 (cloth) \$13.95. To order, call 1-800-451-7556.

The Yazoo Mississippi Delta, a persistently poor rural area of north-central Mississippi, has suffered from high unemployment and underemployment, poor housing, poor health care, poor nutrition, and poor education for more than a century. James Cobb's *The Most Southern Place on Earth*, subtitled "The Mississippi Delta and the Roots of Regional Identity," examines the reasons for the stubborn persistence of such distressed conditions and looks for an explanation in the particular historical experiences of the region. Using the papers of plantation owners, records of the Works Progress Administration, newspaper articles, census data, and other traditional historical sources, Cobb not only documents political, social, and economic factors that have held back progress, but also implies that well-intentioned government policies failed in the face of organized manipulation by local elites. In uncovering the reasons behind the failure of government assistance, Cobb concludes the Yazoo Mississippi Delta cannot serve as a model for effective implementation of social policy to alleviate persistent poverty. In fact, Cobb asserts, it provides the opposite—evidence of the inability of such policies to succeed in a social system dominated by social and economic inequalities.

Cobb's analysis suggests that the planter elite intentionally pursued strategies that sustained poverty in the Delta to retain their profitable position in the agricultural economy of their region. Perhaps the most familiar example of such efforts was the relationship developed between White planters and Black sharecroppers. Relying primarily on labor-intensive farming and dependent on landless Blacks from the end of the Civil War through the 1950's, the small number of planters maintained control of their labor supply through such methods as manufacturing debts, violating labor contracts through intimidation, and socially marginalizing Blacks by characterizing them as

childlike, docile, ignorant, and in need of paternalistic relationships.

Cobb also asserts that the planter elite's hostile attitude toward industrialization between 1930 and 1950 kept the Delta from sharing the economic development that was providing employment opportunities in other parts of the South for rural people no longer needed in agriculture. According to Cobb, planters feared that the better pay and steadier employment offered by industry would reduce their traditional access to landless laborers and would encourage Blacks to view themselves as equal to Whites. Delta planters continued to resist industrialization until it became clear that such a development would not threaten agriculture.

Cobb argues that planters succeeded not only in initially resisting industrial development, but also in later controlling its introduction through their skillful manipulation of outside financiers and Federal government programs. As planters gradually mechanized their farms and adopted herbicide use during the 1940's, the need for laborers declined and planters began to see the value of manufacturing to their region's economy. By the late 1940's, Cobb writes, planters in the Yazoo Mississippi Delta began insisting on the establishment of agriculture-related industries. Through the Mississippi Agricultural and Industrial Commission, which, according to Cobb, planters controlled through their political influence, the White elite assured that no unionized, integrated, high-wage plants would find an opportunity in the Delta. Factories that fit those requirements were welcomed to the Delta primarily to provide jobs for poor Whites and halt their outmigration. Because many Blacks were still needed through the early 1950's as day laborers, only a small number were given employment in factories. Blacks worked at menial low-wage jobs during the agricultural off-season. This process relieved planters of the responsibility of providing for members of their labor force during the winter months when their work was not needed on the plantations, and perhaps prevented the migration of that labor force to northern factories. Cobb suggests planters later became increasingly eager to

release laborers to other employment after the minimum wage law of 1967 required workers to be paid \$1 per hour.

Years of segregation and poor support for public education by the landed elite, Cobb writes, led to a lack of economic development in the Yazoo Mississippi Delta. In Cobb's view, those conditions resulted largely from the desire of the planter aristocracy to see their economic and social authority protected. Failing initially to recognize that their own economic survival would ultimately depend on the skill and literacy of their own employees, planters refused to support school systems for the poor, especially members of the Black community. According to Cobb, they believed that education made Blacks unsatisfied field hands who would demand the same wages and respect as White workers.

Planters fought movements for adequate rural public education until after World War II, when agricultural and industrial developments both reduced the need for child labor and dictated the need for a more skilled labor force. Cobb records that during the 1950's, planters began to advocate improved schools and State-funded industrial programs that would turn Black field hands into skilled farm mechanics and factory workers. The hands that once picked the cotton were now expected to operate the machines. Planters who used to patrol the farm roads to extract maximum production from their Black labor force were now patrolling the factory floors to ensure that production quotas were met. Yet even with improvements in education, Cobb notes, the work situation did not improve: work days were long, wages low, and conditions not always favorable for long-term health.

Cobb blames the Federal government as much as the local elite for the perpetuation of rural poverty. Since the New Deal agricultural programs of the 1930's, he asserts, Delta planters have manipulated Federal policies, programs, and individual agents to maintain their economic control. Under the Agricultural Adjustment Act, for example, planters received commodity program payments that they never shared with sharecroppers. They used the money instead, explains Cobb, to purchase machines and chemicals, ultimately displacing Blacks and poor Whites. Even in the face of documented discrimination, the Federal Government succumbed to pressure by local planter elites to allow this questionable diversion of payments from sharecroppers to planters. Cobb contends Federal agencies have continued to allow planters to dominate farm subsidy programs through local control and national political pressure.

Moreover, according to Cobb, local elites have resented farm programs and rural policies designed to help minorities and the rural poor. Historically, Cobb suggests, planters have only encouraged relief when they saw it as a way to reduce their own costs. They have been successful in controlling labor supply through such programs, insisting on a halt to relief programs when their needs for labor returned or restricting such programs to assure an

excess supply of labor to maintain low wages. Local planters, he finds, have controlled both draft boards and employment programs to protect their sources of agricultural workers. Moreover, when compliant labor was short, planters also succeeded in getting the Federal Government to provide them with POW's, Hispanic, Italian, and Japanese laborers, to help them produce their crops. In some places, Cobb asserts, planters even controlled, with the cooperation of individual government employees, decisions regarding who would benefit from food stamps and commodity distribution and how long each family would retain access to these programs.

While military service and war experiences encouraged some Delta Blacks and even a few Whites to challenge the racial orthodoxy that was so clearly at odds with the nation's sense of democracy, in Cobb's view the rural poor's attempt at bettering their economic and political situation failed. Planters, as Cobb demonstrates, successfully fought change, even during the Civil Rights Movement, and Cobb insists that Federal agencies have failed to direct their local offices to ensure that assistance programs aid the rural poor rather than impede their progress. Cobb contends that government policies "often continued the Delta's inequities and reinforced its anachronistic social and political order as well" (Cobb, p. 333).

Cobb is not the first to examine these dynamics within southern rural society. New analyses have appeared regularly, each offering explanations for conditions in the South based on their contemporary understanding of race relations and southern systems. During the 1920's, for example, attention focused on the virtual continuation of plantation slavery conditions. Investigators found poor Whites in destitute conditions, as well, but with some small advantage over Blacks because of their race. Analysts of the early 20th century, including Ray Stannard Baker, W. E. B. DuBois, and William J. Edwards, pointed to Federal policies of the 19th century as the cause of these conditions, documenting that land distribution programs and agricultural research and education that had been intended to assist Blacks, had been under-funded and diverted through discriminatory practices by local program staffs and through political manipulation by White elites.

Analysts in the 1930's, especially Carter G. Woodson, Arthur F. Raper, and Edgar T. Thompson, continued to note the familiar characteristics of extreme poverty, elite domination, and institutionalized racism, but added emphasis on the relationship between cotton production and poverty, especially Black impoverishment. According to this analysis, the lack of technology, markets, transportation systems, and economic diversity inherent in southern plantation cotton agriculture kept the entire region poor. Observers recommended education, social programs, improved wages and working conditions for

farm labor, and an end to race discrimination in Federal programs.

Following the New Deal and World War II, scholars interested in conditions in the South, including Samuel H. Hobbs, Victor Perlo, and Rupert B. Vance, noted that Federal agricultural policies of the preceding decade had, again, benefitted only the wealthy planters. These policies had provided them with cash to substitute mechanical and chemical methods for work formerly performed by hand, in return for reducing their acreage in production. For Blacks and poor Whites, Federal assistance had meant loss of livelihood with the end of the widespread use of sharecroppers. Many migrated to cities to search for jobs, which, by the 1960's, analysts like Anthony Dunbar and Gunnar Myrdal began to suggest was an explanation for rising urban problems. At the same time, the Civil Rights movement led to public awareness of rural southern poverty and race issues and to new Federal programs to alleviate poverty and force change in the systems that protected racially discriminatory policies.

Cobb's 1992 work is part of a new wave of analysis that questions, as analyses in the 1950's and 1960's did, the efficacy of Federal programs and looks to the history and culture of the South to explain the resistance of that region to change. Other contemporary publications by Nicholas Lemann, Pete Daniel, and Jacqueline Jones strongly suggest that poverty in rural areas is the result of a failure by policymakers and politicians to clearly define the needs of the poor and the strategies best suited to address those needs.

The Yazoo Mississippi Delta, in particular, continues to be defined by deep poverty and great wealth, despite active programs to change those conditions since the 1960's. Yet while Cobb's analysis provides numerous examples of the oppression rural Blacks have endured in the Delta, his work falls short. Other than chronicling the roles of Delta storekeeper Amzie Moore, pharmacist Aaron Henry, and sharecroppers Fannie Lou Hamer and Unita Blackwell, individuals who attempted to alter the Delta from a place where "a man's life isn't worth a penny with a hole in it" (Cobb, p.222) to "a testing ground for democracy" (Cobb, p. 232), Cobb failed to incorporate additional positive and self-directed experiences Blacks created. Many Blacks in the Delta were able to acquire and hold onto land. They produced bountiful crops and found ways to market them, despite White intimidation. In addition, some Black landowners were able to secure credit to expand and diversify their production. Although many of these farmers never equaled White planters in terms of their landholding and level of participation in farm programs, some, nevertheless, were very successful and were able to give jobs to Black sharecropping families who had been pushed off White farms by technology and manipulation of Federal agricultural policies.

Oral interviews would have allowed Cobb to see that the Black rural church and Black-owned cooperatives, for

example, made significant contributions to the improvement of life in Black rural communities. Many self-help programs cared for the sick, elderly, widowed, and orphaned. The rural church also created benevolent funds so it could donate money to families in need of food and clothing. Although this assistance was limited because families' resources were scarce, the Black rural church, through its social programs, helped to guard against the hopelessness many Blacks might have experienced as a result of social, political, and economic domination.

In addition to the work of the Black rural church, Black self-help co-ops, community organizations, and schools assisted rural Blacks. The co-ops bought land and sold it cheaply to African American farmers. They loaned money to purchase seed, feed, and chemicals. Black co-ops also marketed Black farmers' crops and encouraged diversification of production. Black land grant universities provided the Black rural and farm community with information concerning improved farming methods, new technologies, nutrition, health, and housing. Black rural community organizations arranged cultural events, dances, picnics, and games to create strong networks that supported the survival of Black families in rural areas.

Despite this failure to recognize the development of internal community resources by poor rural Blacks, *The Most Southern Place on Earth* is a valuable contribution to the large literature on the South, especially for its detailed description of the particular ways in which the Delta planter elite preserved a region characterized by extremes of wealth and poverty, without a sizable middle class. Cobb documents with care the intentional efforts of that elite to maintain economic and social control and the consequences of those efforts for the remainder of Delta society. He openly indicts outsiders who cooperated or allowed manipulations of policies and programs that helped to sustain that social structure. Yet he retains some sensitivity to the internal cultural dynamics of that social structure, even in the face of its injustices and seeming blindness to the long-term effects of that structure on the economic survival of the region. Although this review does not focus on Cobb's cultural interpretations of Delta life, he does devote the book's final two chapters to the artistic creativity of both Blacks and poor Whites that has been forged in the Delta by racial and class oppression.

Cobb's work is at once respectful and harshly critical of the reality that is the Yazoo Mississippi Delta. And he warns that, rather than being an isolated world of its own, the same forces of economic and social polarization that created "the Delta's image as the South writ small may one day transform an entire nation into the Delta writ large" (Cobb, p. 333). The same warning, applied to the failures of government policy in the Delta, might suggest that policies to assist the poor and alter the economies of persistently poor rural areas will not succeed if they are implemented, as they were in the Delta, without regard

for historical injustices and inequalities in the social system.

For Further Reading . . .

R. S. Baker, *Following the Color Line*, Doubleday, Page and Company, New York, 1908.

P. Daniel, *The Shadow of Slavery: Peonage in the South, 1901-1969*, University of Illinois Press, Urbana, IL, 1972.

W. E. B. DuBois, "The Rural South," *Quarterly Publication of the American Statistical Association*, Vol. 13, March 1912, pp. 80-84.

A. Dunbar, *The Will to Survive: A Study of a Mississippi Plantation Community Based on the Words of Its Citizens*, Southern Regional Council, Inc., Atlanta, GA, 1969.

C. B. Flora and J. Christenson, eds., *Rural Policies for the 1990s*, Westview Press, Boulder, CO, 1991.

V. Grim, "From Plantation to Society: P.H. Brooks and the Establishment of an African American Community in the Rural South, 1920-1950," *Locus: An Historical Journal of Regional Perspectives on National Topics*, Vol. 7, No. 1, Fall 1994, pp. 1-31.

D. H. Grubbs, *Cry From the Cotton*, University of North Carolina Press, Chapel Hill, NC, 1971.

G. E. Haynes and L. Benson, *Cotton Growing Communities: Case Studies of Ten Rural Communities and Nineteen Plantations in Arkansas*, Federal Council of Churches, New York, 1935.

S. H. Hobbs, *Rural Communities of the South*, Institute for Research in Social Science, Chapel Hill, NC, 1946.

C. S. Johnson, *Shadow of the Plantation*, University of Chicago Press, Chicago, IL, 1934.

J. Jones, *The Dispossessed: America's Underclasses From the Civil War to the Present*, Basic Books, New York, 1992.

N. Lemann, *The Promised Land: The Great Black Migration and How it Changed America*, Alfred A. Knopf, New York, 1991.

G. Myrdal, *An American Dilemma*, Harper and Brothers, New York, 1962.

V. Perlo, *The Negro in Southern Agriculture: The Plantation, Sharecropping, Farm Labor, Land Ownership, Mechanization, and Living Standards Since World War II*, International Publishers, New York, 1953.

C. G. Woodson, *The Rural Negro*, Association for the Study of Negro Life and History, Washington, DC, 1939.

Valerie Grim is an assistant professor of African American Studies at the Indiana University. She thanks Anne Effland, a social science analyst, and Robert Gibbs, a regional economist, both in the Rural Economy Division, ERS, for their generous comments and critical review of this article.

Reviews

The New American Workplace: Transforming Work Systems in the United States

Eileen Appelbaum and Rosemary Batt. Ithaca, NY: ILR Press, Cornell University, 1994. 320 pages. ISBN 0-87546-318-5 (Cloth) \$45.00; ISBN 0-87546-319-3 (paper) \$18.95. To order, call 1-800-666-2211.

Hardly an issue of a current management or human resource periodical appears without some mention of the strategies American companies can use to become more competitive, achieve greater productivity, and increase market share. Most articles suggest remedies—the use of teams, reengineering, or new pay and reward systems, for instance—and are accompanied by anecdotal evidence of reforms that have revitalized businesses.

Are these highly touted mechanisms right for all U.S. enterprises? Under what circumstances should they be adopted? And more importantly, do they result in one-

time changes, or do they add to long-term efficiency and productivity increases?

In *The New American Workplace: Transforming Work Systems in the United States*, authors Eileen Appelbaum and Rosemary Batt provide a framework in which to consider the myriad innovations being adopted by U.S. businesses over the past decade or two. The book's greatest value, however, is that it makes a clear and compelling case for fundamental change in the way American firms organize and perform work.

No longer will the top-down management style, used for decades in mass production, result in the quality or variety of goods and services needed in current markets. The authors note that today's environment requires rapid response, flexibility, customization, and high quality. By overhauling management methods, work organization, human resource practices, and industrial relations, businesses can move toward the "transformed" systems that contribute to reduced costs, greater operating efficiency

and employee commitment, and ultimately, higher productivity and a sustained competitive advantage.

Appelbaum and Batt have defined a new vision of the American workplace, one in which structural changes permanently transform American firms into "high-performance" workplaces. Such changes affect every part of the organization and realign relationships with employees, suppliers, and other firms as well as the ultimate "customer," the user of products and services.

The book appears at a time when U.S. businesses, both large and small, are searching for pragmatic ways to respond to the challenge of a global marketplace. Many realize they can no longer compete in price-conscious markets without the added advantages of high quality, customized products and services. There is evidence to suggest the service sector is experiencing the same pressures. Appelbaum and Batt note that government entities, unions, and employees also show an interest in, and exert some pressure to introduce, workplace innovations. Downsizing and a decline in real wages have led them to seek more active roles in workplace change.

It is against this backdrop that the authors examine the work systems of other countries, provide a wealth of case studies found in the United States since the 1980's, and assess the evidence from a variety of surveys undertaken to evaluate workplace change. They firmly establish the groundwork for the argument that two distinctly American high-performance models are emerging and that both have contributed to impressive, long-term improvements.

The first, an American version of "lean production," emphasizes quality, process management or the reengineering of work flow, data collection and performance measurement, and a centralized approach that mandates human resource policies. The second system, termed American "team production," stresses decentralization and the use of autonomous work groups, just-in-time inventories, total quality efforts, and statistical process control. It includes human resource strategies built on worker participation, labor-management cooperation, and innovations in compensation structures. In firms where this approach is used, teams of employees are more likely to pinpoint the source of competitive advantage and use training and continuous improvement to build flexibility into processes and products.

The New American Workplace stresses that no one best way is emerging. It provides ample examples of both approaches, and the authors stay true to the mark in evaluating these systems. They keep the focus on the reason for change: Is it structural? Can it be sustained, and does it take into account all stakeholders? Does it achieve the goals of better quality, continuous improvement, and a coherent set of practices that result in higher productivity? And, finally, do employees have a chance for good

wages, employment security, and interesting work—traditional opportunity of middle-class workers?

In the final chapters, the authors address the barriers to high performance and analyze the obstacles to diffusing such systems across firms and industries. They add a cogent and persuasive argument for public policies to support diffusion of high-performance practices. Too often, the book concludes, businesses adopt change mechanisms in a piecemeal fashion, choosing from the available human resource strategies and organizational tools available without sufficient information or support. The book's lasting value is that it fills the information gap, giving change agents and would-be experimenters a chance to glean the best of others' efforts and a context in which to understand the myriad available approaches.

Reviewed by Barbara Schrader, a writer/editor with the Office of the American Workplace (OAW), U.S. Department of Labor. The OAW promotes partnerships among business, labor, and government and encourages the adoption of high-performance work practices. Its publications include Road to High-Performance Workplaces, a how-to guide outlining the elements of high-performance workplaces.

Managing Community Growth: Policies, Techniques, and Impacts

Eric Damian Kelly. Westport CT: Praeger, 1993. 248 pages. ISBN 0-275-94495-6 (cloth) \$55.00 (paper) \$19.95. To order, call 1-800-225-5800.

Eric Kelly's *Managing Community Growth* is primarily a book about city and suburban planning for city and suburban planners. It has indirect relevance for rural development specialists because city growth obviously affects rural areas. Of direct relevance is the chapter on the efforts of several States to coordinate urban-rural growth on a regional basis so that "sprawl" is controlled and agricultural land is preserved. The book may also be helpful to rural planners concerned with small cities ("regional growth centers") located in predominantly rural areas. The book is well-written but is geared toward the specialist. Much of it consists of pithy reviews of the literature, which makes it a useful reference for the expert but decreases its ability to sustain the interest of the nonspecialist.

Kelly begins with a discussion of "tools" such as zoning and subdivision control and summarizes the history of early attempts to manage growth in several communities. He then considers contemporary regulatory programs such as adequate public facilities requirements, growth phasing programs, urban growth boundaries, and rate-of-growth strategies. Each has advantages and drawbacks. For instance, in some communities, public facilities may be available in locations relatively remote from the community, which can encourage unwanted growth. Similarly, urban growth boundaries will reduce contiguous sprawl but may stimulate "leapfrog" development.

By being aware of these individual pitfalls, planners can employ a combination of programs.

In addition, communities can use nonregulatory techniques to control growth, such as transportation links, sewer and water service, and land acquisition. All of these can be significant growth shapers but the question for communities is whether they have the power and the political will to use them. For instance, the growth-shaping capacity of infrastructure development is so great that it can overwhelm regulatory efforts. Enlarging urban boundaries by annexing land leads inevitably to the demand for services for that land, while purchasing land "is the most certain way to ensure that land will not be developed without public sector support."

In perhaps the most important chapter for readers interested in rural development, Kelly considers regional and statewide programs in Hawaii, Vermont, Florida, Oregon, Washington, Maryland, and Georgia. He concludes that only statewide efforts can do a fully effective job of controlling sprawl and protecting agricultural and wetlands, while still accommodating development. But even if statewide programs are not in place, local communities can still make progress if regulatory and nonregulatory techniques are used in judicious combination.

Reviewed by Dennis Roth, an analyst with ERS-RED.

Industrial-Strength Strategies: Regional Business Clusters and Public Policy

Stuart A. Rosenfeld. Queenstown, MD: The Aspen Institute, 1995. 148 pages. ISBN: 0-89843-175-1 (paper) \$10.00. To order, call 410-820-5326.

According to Stuart Rosenfeld, cluster-based development strategies have excellent potential to strengthen America's urban and rural industrial base and to improve its competitiveness. He also believes the culture of less urbanized areas may be as good or better than larger cities for the exchange of new ideas and knowledge between firms and worker. He attributes this to the idea that small-town relationships are more personal, business transactions less formal, and the concept of community more highly valued.

Rosenfeld defines a business cluster as "a loose, geographically bounded agglomeration of similar, related firms that together are able to achieve synergy." And he contends that, "collectively, businesses can be stronger than the sum of their individual capabilities." Although advances in telecommunications and the information highway are helpful, they cannot take the place of face-to-face contact for developing close beneficial business ties. Therefore, business clusters are generally concentrated within a few cities or contiguous counties.

One of the advantages of clusters is that firms can cooperate and produce one final product with each firm specializing in a particular phase of production. Each can perfect specific processes and in many cases achieve greater

returns to scale. Another advantage is that as concentration in an industry expands, it becomes more economically efficient for institutional and physical infrastructure to be expanded to serve the special needs of the industry. The same is true for specialized support industries, which also are attracted by new and efficient business prospects. A third benefit of clusters is that labor skills are also heightened as workers become more mobile. Thus, increased mobility results in quicker dissemination of new technologies and innovations. And finally, clustered firms within a region can develop and maintain a common name or identity for their product—for example, Florida oranges or Wisconsin cheese. These often instill in the customer a sense of quality and uniformity.

Should governments encourage formations of clusters, and what are the pros and cons of doing so? Arguments against government intervention center on the idea that in doing so, certain industries may get favorable advantages over the others and that the market does a better job of capital allocation than the government can. One argument in favor of government support of business clustering is that it is more efficient to deal with problems or needs that are common to groups than it is to handle problems of smaller segments. Another argument in favor is that smaller organizations do not generally have the resources to be involved in policy formation and may not be represented fairly—but when clustered, they become more powerful and able to bring about needed change.

Since much of the text is written in outline style with major ideas highlighted, this book reads quickly and easily. Many text boxes for related concepts, more in-depth treatment, or examples are provided amongst the text. A good portion of the book is devoted to highlights of model regional development institutions—how they were formed, their strategies, and their accomplishments or failures. And to provide a better understanding of the concepts introduced throughout the book, indepth case studies of hosiery and furniture manufacturing clusters—both in the Catawba Valley of North Carolina—are provided.

This book is a good starting point for individuals studying different strategies for urban or rural development. Besides providing a general understanding of the concepts and key words in cluster-based development, it highlights what has already been accomplished with the strategy. Several pages of references and recommended readings are also provided for further investigation.

Reviewed by Doug Rhoades, an economist with ERS-RED.

Dictionary of Statistics and Methodology: A Nontechnical Guide for the Social Sciences

Paul Vogt. Thousand Oaks, CA: Sage, 1993. 253 pages. ISBN 0-8039-5276-7 (paper) \$22.95, ISBN 0-8039-5276-7(cloth) \$49.95. To order, call 805-499-0721.

Paul Vogt's *Dictionary of Statistics and Methodology: A Nontechnical Guide for the Social Sciences*, can be a useful tool for the *Rural Development Perspectives (RDP)* reader. *RDP* is written using a minimum of social science jargon, but what does a reader do if he or she wants to read the jargon-laden technical social science literature on the subject - without putting in years of graduate training? Vogt's book can help.

This book is a dictionary defining technical social science terms. The intention is for the definitions to be in plain English. Sometimes Vogt succeeds in this, but the irony is that he found it impossible to give short definitions completely free of technical jargon. So he uses technical jargon where he must to provide a brief "nontechnical" definition of a technical term, preceding each jargon term with a star so that the reader can go to the dictionary entry for the word, if needed. That's readily done if you're missing one or two words. However, if all the jargon is foreign to you, you'll fan out from definition to definition, probably an educational experience, possibly a frustrating one.

Many entries in Vogt's *Dictionary* are entirely satisfactory. For example, 'PUMS' is defined as 'Public Use Microdata Samples' and leads to a solid explanation of that data file. Other entries are intrinsically difficult for the uninitiated. For example, even if the reader has a firm grasp of basic mathematics and statistics (such as counts, proportions, percentages, means, and medians) finding out what the phrase 'OLS estimation of a linear model' means will require a search through a wilderness of definitions of jargon terms (see "Illustration" at right). Perhaps that is inevitable in the absence of doing the algebraic prerequisites and "taking the course." Still other entries may be of value in other disciplines, but terms such as 'moderating variable,' 'moderator (variable),' 'modus ponens,' 'modus tolens,' 'molar,' 'molecular,' are entries that, in my experience in graduate school in sociology, econometrics, and mathematical statistics and in my working life as a researcher, have never come up.

How well does Vogt do what he set out to do? Fairly well, but there is plenty of room to quibble about specific entries, included or excluded. From the included entries, it looks as if Vogt is a social psychologist. Statistics terms used by both sociology and psychology are prevalent. To me as someone with econometric training, the econometric entries are somewhat weak. For help with econometrics, you might want to look at Peter Kennedy's *A Guide to Econometrics*, a self-help book, mostly in English rather than in the econometric textbooks' algebraic notation.

Illustration

Following the path of OLS through the Dictionary

'OLS' is defined as '*Ordinary least squares.' Its entry is:

A statistical method of determining a *regression equation, that is, the equation that best represents the relationship among the *variables. See *least-squares criterion. Compare *generalized least squares.

The entry for 'regression' includes the starred words:

- variables
- statistical regression
- regression toward the mean
- predictor variable
- criterion variable
- Pearson's correlation coefficient.

The entry for 'regression equation' includes the starred words:

- dependent variable [same as criterion variable]
- independent variable [same as predictor variable]
- slope
- regression coefficient
- intercept
- error term.

The entry for 'variables' includes the starred words:

- treatment
- categorical
- continuous
- dependent
- independent.

The entry for 'least squares criterion' includes the starred words:

- regression analysis
- regression equation
- regression line
- sum of the squared deviation scores (errors)
- ordinary least squares
- general linear model
- generalized least squares.

The entry for 'generalized least squares' includes the starred words:

- ordinary least squares
- regression analysis
- error term
- heteroscedasticity
- autocorrelation.

Reviewed by John Angle, a statistician with ERS-RED.

Environmental Protection at the State Level: Politics and Progress in Controlling Pollution

Evan J. Rinquist. Armonk, NY: M.E. Sharpe, 1993. 243 pages. ISBN 1-56324-204-4 (paper) \$28.95. To order, call 805-499-0721.

Environmental Protection at the State Level, by Texas Tech political scientist Evan J. Rinquist, is a comprehensive and valuable treatment of an important topic. Moreover, this book written in early 1993 seems strangely prescient in its repeated use of the word "devolution" to describe the increasing role that State governments have taken in pollution control. Perhaps the author did not foresee the Republican takeover of Congress in 1994, but the election of Bill Clinton in November 1992 apparently did not cause him to alter his view of long-term trends in Federal-State relations.

The author applies himself to two main questions: Why do some States have stronger environmental regulations than others, and do varying levels of stringency and regulatory innovation actually affect environmental quality? He examines these issues in the book's four main sections: (1) the context and history of pollution control, especially as it affects air and water quality; (2) the States' role in pollution control and various theories that attempt to explain the extent to which they assume that role; (3) an evaluation of the author's "integrated theory" of State pollution control; and (4) an assessment of the success of pollution control, focusing on air and water. Rinquist concludes with a discussion of the future of pollution control.

Rinquist points out that cities and States were the first governing bodies to enact environmental legislation, but by the 1960's it had become clear that they could not do the job alone. The creation of the Environmental Protection Agency and the enactment of the first Clean Air and Water Acts thrust the Federal Government into the lead. By the end of the 1970's, however, the States began to assume a larger role and, in some cases, to take the initiative in pollution control. One of the reasons for the States' resurgence was their enhanced capacity "to accept and administer expanding policy authority."

The author summarizes the three "theories" that purport to explain States' regulatory actions, but finds each one inadequate when used alone. Levels of States' wealth and income correlate well with the strength of environmental controls, but "economic determinism" provides no insight into the way in which economic variables are translated into political activity. The "political model" is found wanting because it does not provide an "adequately rich and integrated representation of the policy process," while the "interest group theory" is considered simplistic when divorced from political and economic variables. Taken together, however, these three theories perform admirably. The author demonstrates the efficacy of his "integrated model" in a series of statistical correlations using multiple regression and path analysis, which he claims are the first such rigorous tests done by a social scientist. Statistically challenged readers will find this sec-

tion of the book difficult going, but they can rely on the clarity of the author's narrative explications to help guide them through any digital duress. According to Rinquist, economic resources, public opinion, and organized interests combine in creating "a milieu out of which policy needs and possible remedies arise." This conclusion will be comforting to political scientists, politicians, and interest groups alike, all of whom would be rendered extraneous in a regulatory world ruled only by economic determinism.

The book's final chapters will be of most interest to readers who are not political scientists, because here the author evaluates regulations' effects on levels of air and water pollution. He finds that the States' actions have not improved water quality but most likely have prevented it from becoming worse. On the other hand, States have reduced air pollutants, with those instituting stronger regulations producing greater reductions.

Air and water pollution are so-called "first generation" environmental issues, but States and the Federal Government will have to confront more "second generation cross-media" pollution such as "acid rain" and "third generation" regional and global problems such as ozone depletion. Rinquist concludes the book by explaining why he is guardedly optimistic about the future of multi-generational regulation.

Reviewed by Dennis Roth, an analyst in ERS-RED.

Crossroads on the Information Highway: Convergence and Diversity in Communication Technologies

William J. Hingst. Queenstown, MD: Institute for Information Studies, 1994. 166 pages. ISBN 0-89843-164-6 (paper) \$10.00. To order, call 410-820-5326.

Is convergence in communications media a new phenomenon or is it simply an extension of the telecommunications and information revolutions of the last 40 years? In what ways will convergence of communications media change the way we communicate with others? How will it change the way we work and the way our companies or organizations do business? And, how will it affect the way we learn? These are among the questions addressed in this compilation of six articles by professors, business people, and economists.

The principal media discussed in this book are voice and video communications, information, and entertainment. Industries in which the effects of media are discussed include publishing, retailing, and financial services. Each of these media and industries has a different history, structure, and legal and regulatory framework and operates based on different theories about how people live and work. Technological and economic forces continue to push many forms of communications toward conver-

gence despite the legal and political structures that established their separate identities and structures. Crandel outlines the economic factors in the first chapter.

In the second chapter, Midwinter discusses the technological innovations that have driven convergence. The cost of designing and producing basic components for communication equipment has fallen while quality and functionality have risen. Telecommunications, computing, cable, broadcasting, and consumer electronics have all taken advantage of advances in electronic and photonic (lasers and optical fiber) technologies. Since these media share similar digital processing techniques and components, some degree of convergence is inevitable.

Convergence of the telecommunication and cable industries is especially promising. Initially, telephone lines used copper wire and analog equipment. Now, with the costs of installing fiber optic lines only slightly more expensive than installing copper wire, most new installations involve some use of fiber optics and digital equipment. Since fiber optic lines can simultaneously carry voice, data, and video, considerable financial savings to providers and improved service to customers can be achieved with one network.

To better compete with their rivals and to better serve their customers, companies are increasingly using advanced information technologies and communications. They are creating what Moore calls Business Ecosystems. He defines business ecosystems as "communities of customers, suppliers, lead producers, and other stakeholders interacting with each other to produce goods and services." He uses Walmart—a relatively small rural company in the 1960's, that grew into a \$44-billion company in the early 1990's—as an example of a company that designed and established a business ecosystem. Much of Walmart's success stems from its ability to manage and control a network of remotely located stores with the use of convergence technologies such as computerized inventory, ordering, and sales management systems. These systems allowed Walmart to grow quickly into a powerful chain that can put pressure on suppliers to keep prices down.

Not only are convergent technologies useful in improving efficiency of established industries, Eric Edwards Vogt discusses how they are becoming the basis for entirely new businesses. For example, Pharmaceutical Benefit Management is a new industry enabled by convergent technologies. Health plans and health insurers contract with pharmaceutical benefit management companies to collect data on the drugs their doctors are prescribing and drug prices. These companies also maintain databases used by pharmacies for verifying members' benefits and needs—saving their clients millions of dollars by detecting invalid prescriptions.

These new communications and information technologies require a highly trained society. One benefit of these technologies, however, is that they are exceptionally efficient training tools. Kurshan and Lenk report that schools of

all types are having success with relatively new technologies such as VCR's, personal computers, CD-ROM, video games, videodiscs, modems, faxes, cable television, and satellite dishes. In addition higher quality instruction can be provided to more widely dispersed students and workers (for example, from rural communities) with convergent communication technologies.

In the last chapter, Jorge Reina Schement discusses how changing social forces in America have contributed to the evolution of the household as a media environment. Today, the average household is very different from what it was 40 years ago. The number of members per household has been decreasing, while the number of single-person households has risen. Individuals living alone tend to be high users of media to make up for having fewer personal contacts. Another change is the growing number of people working at home. Telecommuting is the use of convergent communication technologies—such as computers, modems, faxes, and electronic mail—to work at home. It is becoming a viable alternative for many workers—providing greater flexibility, reducing commuting time, and allowing workers to live greater distances from the office. For businesses, it may cut costs both on office space and employee compensation. By "shrinking space," convergent technologies may also decrease the differences between urban and rural areas. Although telecommuting has many advantages, negative effects will have to be considered such as clouding in distinctions between work and leisure and changes in work performance due to decreases in personal interaction with coworkers.

What will communications be like in the future, and how will convergent technologies change the way we live and work? Will Silicon Valley develop a microprocessor chip that can translate many different languages simultaneously or a communications device that can create holographic images of remotely located team members or "knowledge workers" as Vogt envisions? Although no definitive answer emerges from the text, some interesting insights and a general framework for further thought does.

The articles in this book fit well together and tell a good story. It is a valuable resource for those who want to get a basic understanding of the developmental history of communications media, the underlying technologies that have advanced them and facilitated their convergence, and some insights into where they are going in the future. Readers may then be better equipped to understand the impact of new technologies, communication media convergence, and governmental regulations. Rural development practitioners may be able to use that knowledge to help rural areas become better linked to available communications networks.

Reviewed by Doug Rhoades, an economist with ERS/RED.

R D ANNOUNCEMENTS P

Compiled by Dennis Roth

Exploring Rural Medicine: Current Issues and Concepts

Barbara P. Yawn, Angeline Bushy, and Roy A. Yawn (editors). Thousand Oaks, CA: Sage Publications, Inc., 1994. 332 pages. ISBN 0-8039-4852-2 (paper)\$26.00, ISBN 0-8039-4851-4 (cloth)\$54.00 To order, call 805-499-0721.

This collection of 22 papers addresses a variety of medical and other issues that medical professionals are likely to encounter in rural practice. Each paper discusses a specific issue, sometimes in highly technical terms. The medical issues addressed include high-risk pregnancies, child abuse, mental health problems, environmental hazards, traumatic injuries, acute heart attacks, and terminal cancer. Other issues discussed include patient education, the cultural differences between physicians and patients, ethical dilemmas likely to arise in rural settings, and malpractice litigation. All of the papers were written by medical professionals with practical experience in providing health care in rural communities.

Resolving Conflict: Strategies for Local Government

Margaret S. Herman, editor. Washington, DC: International City/County Management Association, 1994. 200 pages. ISBN 0-87326-071-6 (paper) \$23.95. To order, call 800-745-8780

Resolving Conflict is the most recent addition to ICMA's Practical Management Series, which is designed to provide timely information on current issues and problems relevant to local government. The book includes 18 mostly short papers presented in five sections, with each section addressing an aspect of the conflict resolution process. Authors include a mix of academics and consultants with extensive experience in public and private sector mediation, dispute resolution, and process facilitation. The book's central theme is that rather than attempting to suppress, avoid, or "manage" conflict, individuals and organizations should view conflict positively, and take a pro-active approach to achieving win/win solutions. Toward this end, the authors provide a variety of practical concepts, strategies, and techniques for successfully deal-

ing with conflict in the local government environment. A bibliography of additional reference sources is included.

Investing in People: The Human Capital Needs of Rural America

Lionel J. Beaulieu and David Mulkey, editors. Boulder, CO: Westview Press, 1995. 383 pages. ISBN 0-8133-8503-2 (cloth). \$55.50. To order, call 1-800-456-1995.

In recent decades, social scientists increasingly have turned their attention to those factors that might explain why some people are better prepared than others to participate in the labor force. Rural residents consistently rank below urbanites in terms of educational attainment, earned wages, and employability. Are these disparities due to personal and familial characteristics or are they the result of structures that condition the types of economic opportunities made available to rural people? The contributors to this volume, all of whom are specialists in various sub-fields of rural sociology and development, address this problem in a variety of ways. Among its 17 thematically unified essays are chapters on the social and economic forces shaping rural America, gender differences, the status of Blacks and Hispanics, outmigration, displaced workers, the rural school, rural health care, the labor market and human capital investment, and the prospects of using a human resources approach to promote rural economic development.

Unreal Estate

Robert de Gast. Baltimore, MD: Johns Hopkins University Press, 1993. 78 pages. \$29.95 ISBN 0-8018-4591-2 (paper); \$59.95 (cloth). To order, call 800-537-5487

According to Bernard Herman, "No other artifact visually marks the passage of historic time, of stability and change, of cultural continuity and flux more than does architecture." This book of color photographs, commentary, and quotations illustrates the truth of Bernard Herman's assertion. The author, a writer and photographer with interests in architecture and landscape, spent 5 years living in and photographing the rural area of

Virginia known as the Eastern Shore. His several dozen striking photographs of abandoned and derelict homes, barns, shops, and other structures capture the spirit of economic decline which has afflicted these counties since World War II, transforming a once prosperous region into one of the poorest in the State. The author's brief preface provides social and historical context for his photographs.

Reflecting a Prairie Town: A Year in Peterson

Drake Hokanson. Iowa City, IA: University of Iowa Press, 1994. 259 pages, ISBN 0-87745-466-3 \$34.95 (cloth). To order, call 1-800-235-2665.

This book is a multi-layered, literary evocation of what it means to live in one small agricultural town in Iowa. The author graduated from high school in Peterson, IA, and then became a world traveler. Twenty years later he returned to write about and take photographs of the town he had left as a youth. The result is a personal memoir of homecoming and rediscovery into which the author interleaves insights taken from geology, archaeology, climatology, agriculture, economics, archaeology, history, and oral history. The book contains 11 historical images of Peterson, as well as 47 photographs taken by the author. All are in black and white.

Unnatural Selection: Technology, Politics, and Plant Evolution

Cary Fowler. Yverdon, Switzerland: Gordon and Breach Science Publishers, 1994. 317 pages. ISBN 2-88124-640-0 (cloth) \$XX.XX; ISBN 2-88-124-639-7 (paper). For price and ordering information, write to Gordon and Breach Science Publishers, S.A., Y-Parc, Chemin de la Sallaz, 1400 Yverdon, Switzerland.

Unnatural Selection is part of an interdisciplinary series of books on global change. The first section of the book is a background on the rise of U.S. commercial agriculture in the 1800's. The second section covers the state of intellectual property rights for plants from the Plant Patent Act of 1930 through Congressional actions and court decisions in 1980. In the last section, Fowler discusses biotechnology property rights in the international arena, focusing on the General Agreement on Tariffs and Trade (GATT). Unnatural Selection includes detailed notes for each chapter, an extensive bibliography, and several appendixes, including ones on the loss of genetic diversity, sources of information, and definitions of technical terms.