



reviews

ATLAS OF THE NEW WEST: Portrait of a Changing Region. Center of the American West, University of Colorado, Boulder. General Editor, William Riebsame; Director of Cartography, James J. Robb; Photographs by Peter Goin; Essays by Patricia Nelson Limerick and Charles Wilkinson. 192 pp.; maps, diagrs., photgs., notes, index. New York and London: W.W. Norton and Company; 1997. \$35.00 (cloth), ISBN 0-393-04550-1.

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Every so often an atlas comes along that is good enough to drive other atlases into the shadows. One such volume was the atlas by James Allen and Eugene Turner, *We the People: An Atlas of America's Ethnic Diversity*, a winner of the J.B. Jackson prize in 1989; another was the first *State of the World Atlas*. There is the Cole Harris-edited *Historical Atlas of Canada*, and certainly yet another—and still evolving—is Bill Bowen's electronic atlas for the California Geographical Society; so accessible, so potent, so visionary, and an example of cartography in the service of the public good [<http://www.geogdata.csun.edu>]. The *Atlas of the New West*, under the general editorship of geographer William Riebsame at the University of Colorado, Boulder, with photography by Peter Goin and cartography hailing from James Robb's Boulder operation, has locked in a new mark for the high bar.

Published under the aegis of the Center of the American West, this is not just an atlas for westerners, but something for everyone interested

in cartography, in the production of handsome books, and in a well thought out regional portrayal. It gives good weight—and intellectual strength—to the larger cause of regionalism which many of us still believe in, but which has been tortured by various inner doubts and self-inflicted demons for the last couple of decades as a kind of side-swiped victim of drive-by social (pseudo) science. As an atlas and peroration, this works very well, for the most part. There are a few bumps in its path, but as anyone who has traversed dirt tracks in the American West realizes full well, when driving washboard roads there's a certain speed (usually just between 45 and 48 mph) when you start skimming the top of any corrugations, and drop back into little valleys between each high point only when you deign to slow. To be thoroughgoing, those declivities in the Atlas will get some exploration here, but the bottom line is truly a simple one: any geographer or historian or poet or essayist of the West who tries to escape the implications (and ownership) of this atlas is slacking off. Read it and think.

With 50-some maps by Jim Robb and his cartographic team, 20 photographs by the University of Nevada's Peter Goin, an extremely healthy collection of graphs and tables, credible discursive texts by William Riebsame and assistants Hannah Gosnell and David Theobald, and two keynote essays by potentates Patricia Nelson Limerick and Charles Wilkinson, each of the University of Colorado, Boulder, this is predominantly a Colorado operation, and one that brings together a variety of perspectives on what has been called the "New West." That term has come to us thanks largely to the work of the so-called Gang of Four—Patty Limerick herself, Richard White, Donald Worster, and William Cronon, who together worked to challenge the Frontier School vision of the Ameri-

can West popularized by Frederick Jackson Turner almost exactly 100 years ago. There was, in fact, not so much wrong with Turner's vision of human-land interactions, but his disciples tended to more doctrinaire and deterministic views than Turner ever would have himself, converting the West into a kind of battlefield for the triumph of manifest destiny and a litmus test for the determination of a somehow new American man (with no accidental emphasis upon the male). In response, Patty Limerick and her confrere argued that there is no single "West," but instead many indeed, and this volume documents that modern day diversity. It does so, in fact, far more readily than the tens of thousands of words in something like Richard White's *It's Your Misfortune and None of My Own*, a massive textbook that never once uses the "f" word—"frontier"—within its pages. That's what makes a really good atlas better than anything else; it summons a multitudinous assault upon the senses, in photographs, in the brightly-colored and evocative maps, in substantive charts and tables, and latterly, in words.

What, then, is this atlas about? In short, it's a testament to regional identity. I remember too well in the early 1980s sitting in a cow camp working through Bernard DeVoto's introduction to B.A. Botkin's *A Treasury of Western Folklore*, in which DeVoto offered the best imaginable capsule definition of the American West as a cohesive region. He concerned himself with both physical realities and assorted cultural traits (though he would never have called them that). As with this atlas, there was little worry about historical fact—and for an atlas constructed by a group made up predominantly of historians and resource geographers, that elision might seem a little odd. History is slighted; this is contemporary late-'90s fare, and, for that, quite fresh. The subject is the New West, which is defined

with less than complete care. In passing this volume around to various colleagues, the one question they raised, to a person, also has to be asked here, since it isn't answered in the Atlas itself: Why use these singular boundaries? All of California, Oregon, and Washington west of the Sierra-Cascade ranges is excluded from the thematic maps of this volume. Now, quite a few times I've taught "The American West," and about half the time have invidiously excluded California from consideration (usually because there's a whole separate course to be taught on the Golden State). And there are some good reasons to set aside what Earl Pomeroy called the Pacific Slope from consideration—but those reasons should really be made explicit, and they aren't. To say that California is not part of the New West requires arguing that a defining feature of the region is a (relative) absence of population—and that, naturally, is what Frederick Jackson Turner claimed a hundred years ago, and it didn't work especially well even then. The western boundary for the *Atlas of the New West* instead runs along the drainage divide of the Sierra Nevada, slicing down to include Barstow—and quixotically, Palm Springs. The eastern boundary puts the Front Range of the Rockies in the New West, but none of the plains of New Mexico, Colorado, Wyoming, or Montana. Geographers will muse about such things, as I am here, but the point is, it helps to know how an area is defined, and that isn't made clear.

Once over that bump, a number of the maps are strong indeed. As a trade volume, it's perhaps unsurprising that the colors are a trice more lurid than a button-down collar academic publisher might countenance. There is a bit of the flavor of *USA Today*—which has, after all, done quite a bit for visual and data literacy in the American population (and has been home to a

regular column on western matters by Prof. Limerick herself). The best of these maps are minor masterpieces whose collective effect is better even than that. There is, for example, the extraordinarily simple map showing percentage of public land in each western state, representing that proportion with a reduced image of the state itself: Nevada is 83 percent public land, so the public land proportion shows the state at 83 percent size; Colorado is only 36 percent public, so its public land proportion is teenie, but still huge compared to Kansas, at just 0.8 percent public. This is lively and intelligent cartography—as Edward Tufte reminds us, in *The Visual Display of Quantitative Information*, effective communication always wins out with "the revelation of the complex" (p. 191). There are maps that reveal "A Nuked Landscape"—nuclear testing, mining of fissionable materials, and the location of facilities for the design, production, and storage of nuclear and atomic weapons, fuels, and waste. Where "The Old West Lives On" turns out to be almost everywhere; the map contrasts the location of feral horse and burro range (across basically all of the New West) with the homes of cowboy poetry festivals, PRCA sanctioned rodeos, and dude ranches. A map solid in production and concept shows the "Strongholds of the Traditional Economy," where more than 35 percent of a population in either 1980 or 1994 was employed in ranching, mining, logging, or farming—an overall area strikingly reduced in the last fourteen years. Home prices are featured (the West's are high, and the map includes all of the United States to make clear just how comparatively pricey the West really is), as are the election of women—seven states in the west make the top-ten list in the US for proportion of women voted into office. Swooping arrows make it clear indeed that the West is growing swiftly, with a positive net migra-

tion of nearly two-thirds of a million people from other parts of the United States into the New West—over four years almost 400,000 of them abandoning California. The resources, variation in ethnicity, details of the tourist and recreation economy, are all made clear in trenchant maps.

One offering is "War and Peace in the West," mapping locations that have joined in the so-called county supremacy movement (Figure 1). In a remarkable act of cartographic wisdom, the map juxtaposes the county-sovereignty advocates with selected bioregionalist watershed coalitions (on the Gila, Virgin, Animas, Carson, Salmon, and others). In doing so, it tracks two profoundly different political movements, each arguing for a much greater degree of local control than a progressivist federal government has been willing to permit. This is a map that has real depth—after all, what's really being mapped is a localized rejection by two movements that hail from what would typically be considered opposite ends of the political spectrum, yet which have identical purposes: overcoming a hegemonic federal patronage to regain a measure of local control. What's shown is, in effect, yet another pitched battle in the Sagebrush Rebellion. And in case this seems far-fetched, consider the series of full-page ads that 1997 and 1998 have seen taken out in the *New York Times* by a coalition of national environmental groups, spearheaded by the inimitable David Brower, protesting U.S. Forest Service policy. (It is somehow especially telling that the ads are placed in the *Times*.) In particular, the ads lambaste the Forest Service's willingness to consider in the Plumas National Forest a cooperative management agreement with the coalition of local community people, commercial timber interests, and resource professionals. Altogether, these forces make up the so-called Quincy Library Group,

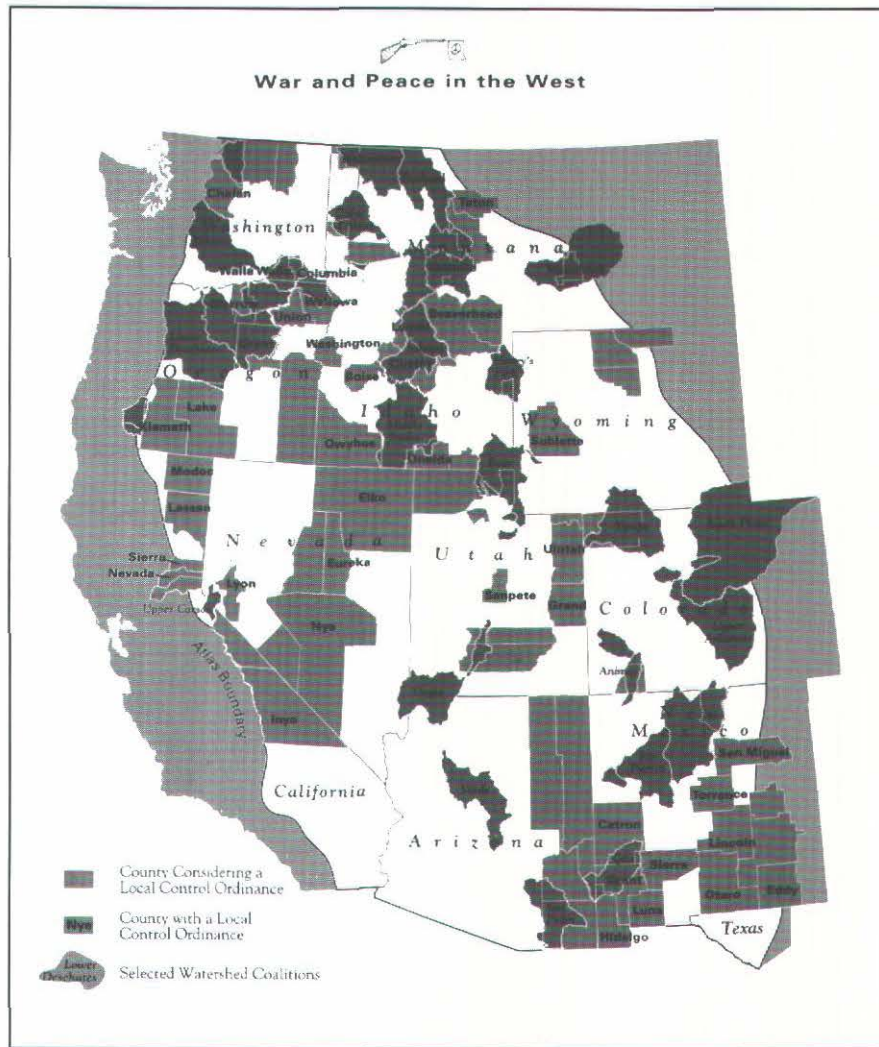


Figure 1. *War and Peace in the West*

which Charles Wilkinson addresses in closing his long essay in this atlas. Here is yet another expression of evolving local versus global thinking—demonstrated cartographically.

The photographs by Peter Goin are fully equal to the maps; they capture the realities of the New West with a nuance that is hard-countenanced yet amused. Goin's neorealism is a long distance from the soppy and romantic fare of a David Muench or Jay Dusard; like the best of the maps, Goin's photography is provocative. The long essays by Patricia Limerick and Charles Wilkinson would be less effective by half without the reflective images by Goin. If there is any single abiding problem with this

work, it is text that doesn't live up to the promise of the photographs that accompany the two principal essays. Limerick's long concluding essay is a sterling bit of work, finely edited and crafted, and with the wit and wisdom that we expect from the doyenne of the New Western History. She remains notably grumpy about the New West, regarding many of the newer arrivals as poseurs who are changing the West in ways not for the best. About Charles Wilkinson's essay, there is less to be said. For someone striving with such conspicuous effort to try to be our latter-day Wallace Stegner, Wilkinson's material is hardworking, sincere, and quite competent. But his meditation captured nothing extra or special for me in the

New West. Maybe, with one book here and another book there, Wilkinson has spread himself too thin of late and a little of his earlier charm has worn away. Wallace Stegner had the rarity of a genuine humanism that always accompanied his nonexclusive vision for the West. But Wilkinson's is an honest effort.

At their best, a number of these maps and texts work wonderfully and are thoroughly thought-provoking. There are a few problems: (some of the entries are simply silly) "The Cultured West" is too vague for words; the symbols used in "The Ugly West" could be a little less cartoonish; and in isolated instances, the subject matter approaches self-parody (as does the New West). But let it be said—the conception of the Atlas is solid: a small map of the "New Age in the New West" might be trivial, except for the long list below the map of "Opportunities to Join the New Age," with its survey of New Age self-repair nostrums. And on the facing page (with white text on a black background!) is a "Declaration of War on the New Age," by an assortment of northern Plains Native American groups upset by the New Ager's appropriations of Indian ritual and practice. There is one heinous error, a falling from statistical grace that, at the very least, a copyeditor should have found—if not the fully adult authors who presumably read over these materials in preparation: A table shows the "Interior West Growth Pole," listing in one column a state-by-state percentage of population growth from 1990 to 1994. But the next column shows doubling time, in years. Nevada, for example, saw a population growth of 21.2 percent in four years. But the "doubling time" is far from 3.3 years, as the table asserts. Doubling time is based on yearly population growth, not a four-year total—in fact, the yearly population growth for Nevada averaged 5.3 percent

(one-quarter of 21.2 percent), and its doubling time is therefore almost fourteen years, not a little over three. The mistake is reproduced ritually for every state. That's first-year statistics, folks... and a howler. Fix it, please, for the next printing.

This is a kind of atlas that should be coming out more often: fine thematic mapping with sensible accompanying text and photographs, charts and tables. All the hallmarks of an inescapable volume are on hand—no one who works in the West, or writes or teaches or lives here—should go without. If there are individual details that can be picked on, that's the sort of discussion that such a book should inspire. And, overall, the symphony is sonorous and striking.

cartographic techniques

Low Altitude Videography as a GIS Data Source

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Overview

Low-altitude, visible spectrum videography provides a relatively low-cost opportunity to detect detailed surface features, and may be a practical media choice for monitoring such surface feature changes over time. However, this type of imagery has not been widely used as a resource for developing thematic data in Geographic Information Systems (GIS). This article describes a process for converting the video frames into composite still images and for georeferencing these

images to an existing set of base GIS themes.

Interest in exploring this process arose in 1997 when resource managers at the South Slough National Estuarine Research Reserve (NERR) in Coos Bay, Oregon, wanted to evaluate the change in the distribution of eel grass beds (*Zostera marina* and *Z. japonica*) in the slough. The eel grass beds provide shelter for a wide variety of fish and invertebrates and are an important component in the slough ecosystem. Field observations conducted in 1991 and 1992 were used to develop GIS data layers showing the approximate distribution of the beds at that time. Base themes for the GIS, such as the channel location and shoreline, were developed using 1991 aerial photos (1" = 1,000') and 7.5 minute USGS maps (1" = 2,000') (Figure 1).

Video Characteristics

In 1996, visible spectrum Hi-8 video was filmed by Charles

Rosenfeld, Department of Geosciences, Oregon State University, for a major portion of the slough. The camera altitude varied from approximately 1,000' to 1,500', and the scale of the resultant digitally converted images was approximately 1" = 100'. At 72 DPI, this corresponds to a resolution of about 1.4' per pixel. By comparison, shuttle radar and SPOT resolution is typically 10 m, and Landsat thematic mapper (TM) and multispectral scanner (MSS) images range from 30 m to 120 m resolution.

Each frame of the video contained locational coordinates obtained from a GPS. However, the sensitivity of the GPS equipment recording the latitude and longitude was such that the values did not keep pace with the movement of the aircraft. At several points, the coordinate values are lost completely for a period of a few seconds to over a minute. Consequently, the latitude and longitude values were useful only for very general placement of

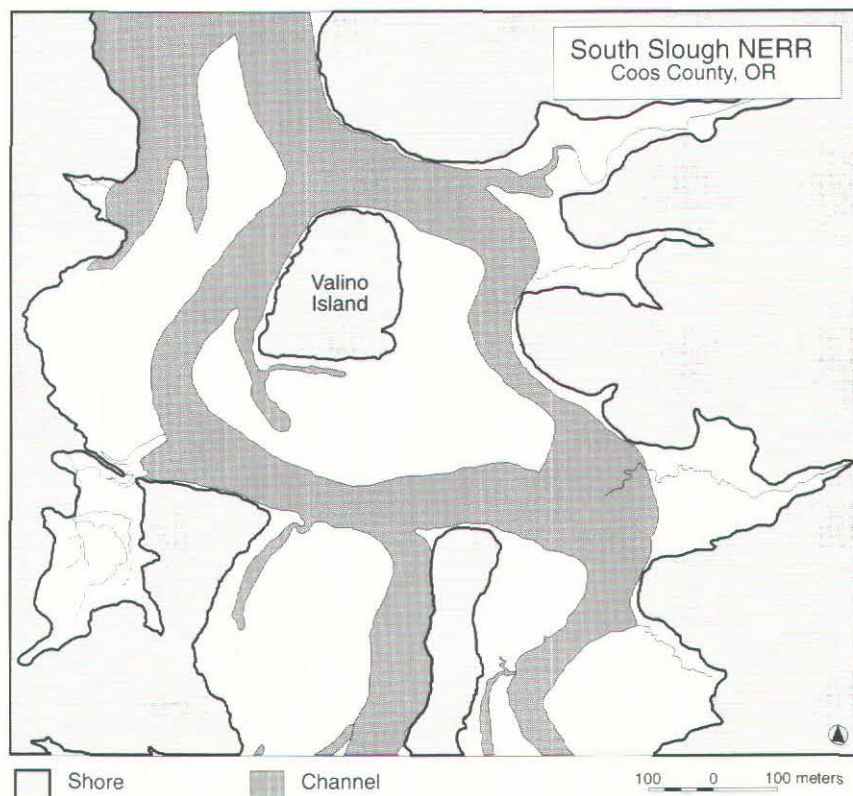


Figure 1. South Slough Base GIS Data from 1991 Aerial Photography