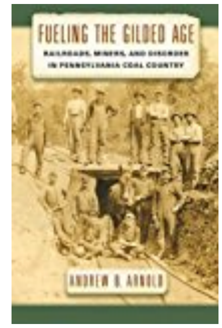

Andrew B. Arnold. *Fueling the Gilded Age: Railroads, Miners, and Disorder in Pennsylvania Coal Country.* Culture, Labor, History Series. New York: New York University Press, 2014. 288 pp. $49.00, cloth, ISBN 978-0-8147-6498-5.

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While energy economy development has been a complex, unresolved, and bewildering experience for millions of human participants, it is rare for an industrial historian to prioritize disorder in the search for historical scope. In *Fueling the Gilded Age*, Andrew B. Arnold forsakes temporal boundaries of victory or defeat, triumph or failure, or ascendancy or decay to study the "three-cornered battle" (p. 143) between railroad managers, coal mine operators, and coal miners in central Pennsylvania from 1873 to 1902. Taking us chronologically through a series of successive conflicts, Arnold demonstrates each party's failure to impose a vision of order, fairness, or victory over the needs of its opponents--whose combined strength sufficed to undermine the best-laid plans of any one group to regulate wages, prices, or freight rates. In doing so he challenges our image of the Gilded Age as one in which executives exercised unquestioned dominance over their industries. Rather, he convincingly argues that power distribution between those engaged in owning, transporting, and mining coal was so evenly balanced as to doom the plans of any one group to bring order to perennial chaos. Through coalfield newspapers, court cases, economic journals, personal vignettes, executive correspondence, and union records, Arnold uses failure to locate those sets "of pragmatic partial solutions" (p. 182) and "ad hoc piecemeal improvisations" (p. 153) that demonstrate each party's capacity to learn and evolve strategically. While it ultimately took the emergencies of World War One and the Great Depression for truly durable frameworks of coordinated bargaining to emerge, students of latter eras may gain much from Arnold's treatment of those mature systems in their infancy.

Students of labor history will feel the most comfortable in the pages of Arnold's early chapters, which documents miners' search for the most effective forms of organization in response to local grievances. Pennsylvania miners' activism unfolds through the evolving legality of strikes, labor activists' personal careers, political initiatives, and the persistence of miners' power through periods of organizational disarray. Organizationally, this story begins with local mine committees and checkweighmen's associations to end with the forerunners to the United Mine Workers of America (UMWA). Arnold's middle section contains a single chapter on "The Great Upheaval in Coal, 1886," yet veers farther from labor history to emphasize the financial positions of railroads and the perspectives of their owners as they considered miners' demands. This integration matures throughout the third and final part of the book, where the efforts of all three parties to project order are tightly interwoven with the development of miners' organizations throughout the 1890s. However, those most eager to understand labor activism may find themselves poorly equipped to integrate, for instance, the significance of Mother Jones's 1899 organization of Tioga County miners' wives with a rapid transition to implications of bankruptcy law reform upon mid-Atlantic freight rates. Though effective for the elucidation of his overall argument, the density of Arnold's evidence and the rapidity of narrative transitions unfortunately ensure that while serious scholars of coal mining and the Gilded Age may find much of value in this work, its organizational complexity is likely to intimidate lay readers.

A major accomplishment of Arnold's work is his identification of railroads as principle catalysts of coalfield class struggle. Particularly in his latter chapters, he demonstrates the predicament of mine operators dependent upon railroads for transportation, who themselves attempted to maximize profits by adjusting freight rates as high as regional markets would bear. By the 1890s, emerging coalfields in West Virginia and Somerset County, PA, intensified operator/miner conflicts as they placed existing railroad empires at a competitive disadvantage. Heavily invested in existing tracks, spurs, customers, and infrastructure, central Pennsylvania railroads lowered these rates to keep their own networks operational. Again and again, Arnold demonstrates the tendency of mine operators to pass such profit decreases on to miners, whether directly via wage cuts or indirectly through such measures as selectively employing married men whose families who ran higher bills at company stores. Such measures could raise profits in the short term, but inevitably provoked costly conflicts in the long term. As demonstrated by the Punxsy strike of 1890, work stoppages--with the associated costs of recruitment and training of inexperienced, less productive replacement workers--were at best uncertain and at worst counterproductive for a capital-intensive industry dependent upon thin margins and consistent output to meet fixed contracts.

Perhaps most significantly, our understandings of the ultimate triumph of pattern bargaining and national UMWA contracts during the New Deal (or the latter fragmentation of this system) are illuminated by Arnold's attention to the development of the model John L. Lewis would institutionalize after 1933. The subsequent imposition of this model upon the broader American labor movement through the UMWA's influence in the CIO gives this work a significance far greater than its relevance to regional or Gilded Age history alone. Though Arnold notes that the variable properties of bituminous coal limited its fluidity during the Gilded Age, coalfield unionists saw the nation moving towards a single market and intensified their efforts to raise wages everywhere. While coal operators remained ideologically opposed to unions by the end of Arnold's study, the attrition of such battles had softened attitudes among some coal managers.

Operators' recognition of a limited role for unionism first appears in 1886 strike settlements that ended with a recognition of miners' rights to elect checkweighmen. In this instance, operators determined the benefits of uninterrupted production to be greater than the cost of allowing miners to measure fair weights. Unionists gained further advances not by defying operators at all times, but in part by appealing to their rational economic interests. In a series of joint UMWA/operator conferences from 1895 to 1900, Arnold chronicles operators' warming to unions as partners in productivity. Where recognized, negotiations that matched wages to production and transport costs checked the instability that sapped operators as well as miners, and could threaten each with bankruptcy. In addition to avoiding costly work stoppages over wage disputes, a national union could further serve as a check on local militancy. In exchange, unions gained a powerful financial engine through employer agreements to collect dues directly from employees. These funds could be used in future organizing drives against non-union holdouts, at no additional cost to employers. However, this arrangement also built in a potential for instability. Many prospective unionists remained skeptical of the benefits of joining a new (and distant) national organization, while union leaders found themselves accountable for the actions of local members whose activism could undermine contractual negotiations, public support, and the union's financial health. This tension, along with the continued skepticism of many coal operators, continued to limit recognition at this time.

It is in this discussion that Arnold's scope holds a unique relevance to those more familiar with the national outlines of twentieth-century coal politics. While UMWA representatives' firm adherence to standard contracts for wage rates, work rules, and payments to a multi-employer Welfare and Retirement Fund (irrespective of production or transportation costs) inspired fierce resistance to organizing drives as the industry restructured from the 1960s onward, the bargaining arrangements they defended had originally evolved through the willingness of union officials to accept differential wage rates for miners working at less profitable mines, or mines subjected to higher freight rates. Whereas before union officials had negotiated differentials frankly, after the establishment of national patterns under John L. Lewis UMWA negotiators found secrecy necessary to appease reluctant operators and keep marginal mines open at all. Outrage over such "sweetheart" contracts, which contributed to a leadership crisis by the 1970s, can be understood as institutional weaknesses built into a distinctly American model of industrial negotiation. Thus, Arnold's attentiveness to the rise of operator acceptance for unions holds a special relevance for scholars in an era of de-unionization.

While such negotiations emerged in Pennsylvania by the close of Arnold's study, the initial development of this system among small operators in Midwestern coal fields leads one to wonder if this work could have been strengthened by a consistent attentiveness to a broader regional scope. One also might appreciate the inclusion of numerous contextualizing coal miners' photographs by Lewis W. Hine, yet wonder why such visual balance was not extended to coal mine operators or railroad executives. Surely, these actors are as likely as the miners to be lumped together by readers into the ingrained tropes of unconscious stereotypes--and are as equally deserving to be studied and presented in the fullest social detail as they lived, worked, socialized, read, and participated as political citizens. Those less familiar with the geography of Pennsylvania will also lament the paucity of maps. Perhaps, the inclusion of tables, or graphical representations of transportation networks, railroad systems, or commodity flows could do much to clarify the central concepts in this book.

Arnold's approach is illuminating, and the questions he asks about class, disorder, markets, and the needs of antagonistic populations mutually dependent upon each other within unstable industries is thoroughly relevant. Though the complexity of its scope may prove daunting to lay readers, the insights to be gleamed from such a novel treatment of three interrelated historical subjects may prove invaluable to serious scholars.