BOOK REVIEWS

Arsenals of Democracy

The Rise of the Gunbelt. The Military Remapping of Industrial America. ANNE MARKUSEN, PETER HALL, SCOTT CAMPBELL, and SABINA DEITRICK. Oxford University Press, New York, 1991. xiv, 341 pp., illus. $35.

How did Cold War defense policy influence the location and performance of American high-technology industry? Is there any direct connection between the rise of defense contracting in the Sunbelt and the decline of traditional manufacturing in the Rustbelt? Can the immense military-industrial complex built up over the course of decades now be redirected toward civilian technology?

Here four economic geographers and urban planners address these and other timely questions about what they call "the military remapping of industrial America," with an eye toward understanding its implications for the future competitiveness of American manufacturing and for the future prosperity of American cities. If their answers are not always convincing, they nonetheless are asking the kinds of questions policy-makers have too often ignored, to their (and our) peril.

Contrary to conventional political wisdom, the United States, as the authors point out, has had a long-standing industrial policy, albeit one managed by our defense agencies in the interests of military competitiveness. As we debate the virtues of an industrial policy aimed at a very different kind of international competitiveness, we owe it to ourselves to appreciate the full consequences of this earlier experiment in economic planning, toward which this volume makes an impressive contribution.

At one time when politicians talked about the Arsenal of Democracy they meant Detroit, Chicago, Cleveland, and the other traditional centers of the automotive and machine tool industries, which twice in this century retooled their assembly lines to beat plowshares into guns, tanks, aircraft, and ammunition. Buffalo and Dayton, the authors remind us, and not Los Angeles and Seattle, were the early centers of the aviation industry. General Motors was the nation's largest defense contractor in World War II, with Ford and Chrysler (third and eighth) not far behind. Chicago was setting the pace in electronics when the Santa Clara Valley was still mostly orchards.

Yet within a decade or so after the end of World War II, the Midwest had surrendered its once commanding lead in the defense business to the "Gunbelt," a coastal periphery running south along the Atlantic seaboard from New England, around Florida and along the Gulf Coast, across Texas and Arizona, then turning north along the Pacific Rim to Seattle. The authors suggest a number of factors behind this sudden shift, but the fundamental failing of the midwestern defense industry seems to have been a matter of corporate culture and priorities. "Locked into consumer-oriented mass production and into the business culture it engendered," the authors argue, midwestern companies simply "found it impossible to adjust to the very different style of that peculiar, defense-dependent industry called aerospace." Moreover, with a booming postwar commercial market, few of these companies saw any good reason for changing their way of doing business. Keeping up with consumer demand was challenge enough.

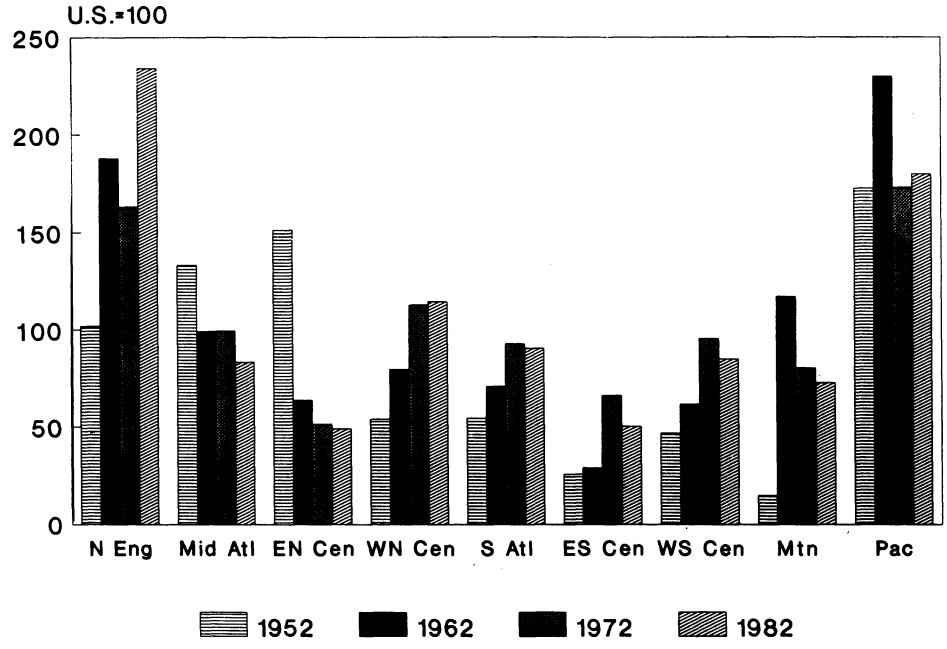
Consequently, when the Pentagon began recruiting corporate partners to build the wonder weapons of the future, it looked not to midwestern mass producers but to a new breed of aerospace companies that the war had made at once fat and dependent. Nowhere was this partnership consummated with more profound results than in Los Angeles. In perhaps their best chapter, the authors trace the rise of Los Angeles from movie capital to "aerospace capital," the heartland of the new postwar military-industrial complex. Clear skies, open land, and local boosters may have attracted Donald Douglas, Jack Northrop, Howard Hughes, and the other aviation enthusiasts in the first place. Connections with aerodynamicist Theodore von Kármán's Caltech may have assisted their design work. And wartime contracts may have transformed their fledgling enterprises into giant corporations. But what gave them the competitive edge in the postwar years, the authors stress, was a demonstrated willingness to remake themselves in the high-tech image of the "New Look" military, led by the Air Force. That was something traditional manufacturing companies, committed to their commercial markets, could not or would not do.

Of course the early contracts enabled Northrop, North American, Lockheed, Hughes, TRW, and other Los Angeles aerospace companies to build up the engineering expertise, skilled labor, and Pentagon contacts that gave them the inside track on contracts for subsequent generations of high-tech weapons. These companies gained further advantages from what the authors call "agglomeration economies," being close enough to each other to share, among other things, such common resources as a pool of specialized and highly skilled workers. In stocking that pool, the aerospace companies were assisted enormously by federal provisions allowing the cost of recruiting and moving scientists and engineers to be charged off to defense contracts. "One might even argue," the authors note, "that the government has been running a massive for-profit resettlement program in the postwar period," often involving graduates of midwestern engineering schools who might otherwise have gone to work for commercial enterprises in their home states. Given its overwhelming lead, the authors see little chance of other regions gaining much ground on the Los Angeles aerospace complex any time soon, despite recent grumblings over congestion, labor scarcity, and the generally high costs of doing business there.

Yet, as an intriguing chapter on Boeing and Seattle suggests, agglomeration economies are not always decisive. William Boeing and his successors kept their company in Seattle and built it into the nation's largest aerospace firm despite any disadvantages of climate and corporate isolation. Unlike its competitors, Boeing did just as well in commercial as in military business, but without the kinds of corporate spin-offs and diversification that have characterized the aerospace complex in Los Angeles. As a "company city," however, Seattle has remained dependent on Boeing, and so dependent on defense contracts, especially during soft times in the commercial aviation market.

As so many entrepreneurs, workers, and politicians have now learned the hard way, defense spending put much of the magic in the "Massachusetts Miracle," a largely misunderstood story of industrial decline, rebirth, and perhaps stagnation. By looking carefully at who benefitted, and who lost, in postwar New England, the authors offer a significant reinterpretation of this region, not as an isolated example of reindustrialization but instead as an integral part of larger national patterns. Faced with the virtual collapse of traditional industries, New England's entrepreneurs turned to military markets, taking particular advantage of unique regional resources such as M.I.T., which wartime and postwar research contracts had made into a military brain trust. Established companies like General Electric, Pratt and Whitney, and Raytheon also reoriented themselves toward defense markets, making Connecticut and Massachusetts among the most defense-dependent of states, and therefore among the most vulnerable to defense cuts.

Surprisingly, perhaps, the authors do not spend much time on Silicon Valley, Florida, Texas, or some other centers of the military-industrial complex. They do, however, include chapters on two places—Colorado Springs and Washington, D.C.—that might not so obviously seem to belong to the "Gunbelt." Colorado Springs, they claim, represents a new path to defense dependency, "an archetype of the new military-industrial city." Local boosters, looking for some way to bring jobs into the region, convinced the military establishment to locate or relocate key facilities there, such as the Consolidated Space Operations Center, the Space Defense Operations Center, and the Air Force Academy. Corporate camp followers such as Rockwell, Ford Aerospace, and TRW then set up regional offices to keep track of current military priorities and potential future contracts, creating a center of high technology in what would otherwise have been the middle of nowhere. Likewise, the increasing importance of software and systems integration has persuaded many of these companies to establish "listening posts" in Washington. Together with the procurement offices they serve, they constitute what the authors call the latest, or tertiary, stage in the evolving military-industrial complex, in which research and systems design are done in one place and the associated development and manufacturing somewhere else, though generally within the "Gunbelt."



Prime Defense Department contracts per capita, according to U.S. Census Bureau division, 1952–1982. In terms of percentage of the U.S. total "the gunbelt—which, in Census Bureau terms, consists of the New England, South Atlantic, East and West South Central, Mountain, and Pacific divisions—increased its share of prime from 38 to nearly 70 percent" during this period. In per capita terms, "the Pacific and New England divisions showed consistently greater-than-average . . . procurement, with all other divisions either oscillating above or below the average line or remaining well below it." [From *The Rise of the Gunbelt*]

To provide a more general "theory of military-industrial places," the authors propose a half-dozen models explaining the dynamics of the military-industrial city. Each model emphasizes some particular feature, such as local boosterism, educational institutions, military bases, or the reorientation of traditional industries, and each is linked to one of the central case studies. In practice, however, the models add little to what are generally sensitive and sensible readings of specific places and histories. Perhaps the authors' most important contribution is simply to redefine the study of the military-industrial complex geographically, revealing larger patterns otherwise obscured by focusing on federal politics and policies. They also give attention to how these patterns have affected the spatial arrangement of cities, increased segregation by race and class, and changed the national balance of political power, matters previous studies of the defense business have generally neglected. (Whether suburbanization really looks all that different in Los Angeles and in Detroit seems debatable, however.)

But explaining "the rise of the Gunbelt" is one thing and connecting that story to the decline of traditional American manufacturing industries quite another. Saying that "the industrial remapping of the United States has sucked defense manufacturing out of the industrial heartland and redistributed it along parts of the West, East,—and South—coasts" seems misleading in light of the authors' own evidence about the commercial priorities of midwestern automotive, electronics, and machine-tool industries. Their record-setting performances in the 1950s and '60s certainly do not suggest that heartland industries made a mistake by concentrating on the consumer market. And their poor performance in recent years would seem to be explained more by their failure to anticipate changes in the consumer market than by their failure to cultivate the military market. Even the assertion that the decline in mass manufacturing owes something to "the geographical isolation of high-tech military production from commercially oriented industries" seems questionable given the increasing divergence of military and civilian technology and the apparent ability of foreign companies to master consumer markets without any connections to high-tech military production. Somehow it seems difficult to imagine how Detroit would have been more competitive had it been an integral part of the postwar military-industrial complex, and easy to imagine how it might have been less so. RCA and GE lost their consumer electronics business despite massive defense contracts. Would defense divisions have helped Chicago electronics companies do any better?

The authors suggest that Cold War defense policy offers a model for constructing a future industrial policy. "All that would be needed," they say, "is to divert the entire program to fight peacetime enemies." Our earlier experience with recruiting systems engineers from the defense industry to fight the war on poverty does not seem particularly encouraging in this respect. Nor do the recent attempts of defense contractors to convert themselves. Assuming, as the authors do, that in the absence of a Cold War consensus Americans will be willing to devote anything like the resources once spent on defense to infrastructure and civilian technology seems mostly wishful thinking. At times the text reads too much like undigested research notes. The authors also have a weakness for mixed (and mixed up) metaphors. The maps and charts, on the other hand, add significantly to the written material. In the end, it is hard to argue with the authors' larger agenda of redirecting American technological resources toward more worthy national goals, however difficult that may prove to be.

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