Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region

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This efficient (302 pages) and interesting book tells geographers much about one of the most important regions on earth. It has no rivals for timeliness and insight into the economic and social dynamics that underlie the sustained success of Silicon Valley. As a work of geography, however, it would earn lower marks. It too often depicts Silicon Valley as abstract space, not place. There are no photographs, data tables, nor figures. The only map names but a dozen locations and does little to correct the book’s conspicuous lack of attention to the task of delimiting the region, its core, and its boundaries. The text’s frequent references to the environment and the ecology of Silicon Valley are metaphorical. Amenity was a major factor in regional development here, but the reader learns nothing about the climate, terrain, vegetation, and littoral characteristics of this attractive southern end of the San Francisco Bay Area. Two dozen separate municipalities control most of the land where industry and its essential supporting services have been allowed to expand wildly for 5 decades, but even the alert reader might be convinced that Palo Alto and Stanford University are the only significant local-level players.

The Foreword and the Introduction set the tone. This is to be a book about the firms that make Silicon Valley dynamic today, as they did in the past and will in the region’s promising future. Exceptionalism is the unexamined premise. Celebratory is the dominant mode. Firms here are said to be unusually flexible and well linked to each other. The “knowledge ecology” (p. xvi) of Silicon Valley is its single most important sustaining feature. No where else has this region’s focus on innovation and propensity for the forma-
tion of new firms. Among the book’s leitmotif of organic analogies, even the death of a firm is celebrated as beneficial to the region as “its demise may fertilize new firms” (p. xvi).

Two history chapters are the book’s first and best, gems of detailed exposition based on fine combinations of original research and eloquent synthesis. Even if Stanford’s Frederick Terman was the creator of the region as we know it, his “herculean efforts by a single great individual” were expended on a place where “the raw material out of which Silicon Valley would coalesce” (p. 4) was already available. Based on his 1992 MA thesis in geography, Timothy J. Sturgeon’s chapter on “How Silicon Valley Came to Be” tells of the Bay Area’s many, many contributions to the radio and electronics field before 1940. Key early inventions and innovations relating to vacuum tubes, loudspeakers, radio broadcasting, television, recording, microwaves, and radar are rooted in the Bay Area. The public-private collaborations common in today’s research university can be said to have been pioneered here in the penumbra of Stanford University.

Stuart Leslie’s follow-up chapter, “The Biggest ‘Angel’ of Them All: The Military and the Making of Silicon Valley,” chronicles the region’s very good fortune in having an established specialty that was deemed vital for the defense industry between 1935 and 1975. This assertion is not new, and others have pointed out that Silicon Valley might better be seen as “the gleaming buckle of ‘the Gun Belt’” (p. 67). Leslie writes beautifully in summarizing how massive federal investment in microelectronics, with its tidal wave of government funding that made this a risk-free industry, established the essential local tradition of risk-taking behavior. In an insightful touch, Leslie comments that Terman (and others, too) overemphasized Stanford University’s contribution to the Silicon Valley equation, failing to see how much was owed to the special circumstances of the early Cold War in the rise of aerospace and defense-related high-tech industry.

Four chapters on institutions each include a strong element of historical description while emphasizing their key roles in today’s self-sustaining growth of jobs, new firms, and profits. A chapter on law firms tells of their positive contribution to creating the confi-
dence needed to invest in new startup firms. The region is depicted as exceptional in its record of being non-litigious. Venture capital firms receive a chapter’s attentions, in their well-known role as fuelers of new firm formation. Even in the downturn of 2000, Silicon Valley received almost half of the nation’s $90 billion in venture capital expenditures. The third institutional nexus is the set of production networks examined by Annalee Saxenian, in a chapter that builds upon her much-acclaimed book contrasting Boston’s Route 128 and its intra-firm and inter-firm failings with the better record of Silicon Valley.

Geographer David P. Angel writes the chapter on the fourth set of institutional practices—labor markets under conditions of agglomeration. Making the most of his 15-year-old survey research, Angel supports the generalization that inter-firm labor flows are an essential feature. More than the other authors in this upbeat book, Angel acknowledges the dark side of the chip in his discussion of the problems of Silicon Valley’s weak tradition of labor organizing within an environment of flexible production forms. It is the worker who pays the costs of production instability in the form of “reduced job security, lower wages, and increased dependence upon part-time and temporary labor” (p. 137). We are well reminded that many semiconductor production jobs pay low wages, especially when compared to high housing costs and the burdens of commuting in congested corridors. The contrast with bonanza rewards for the lucky elite at the top is striking but not dwelt upon here. The fascinating ethnic issues in Silicon Valley’s diverse labor force, both at the top and the bottom, are not given much ink.

Three interpretive chapters command the premium space at the end of this book to deliver variants on the same message. One, on flexible recycling and entrepreneurship, will be most valuable to geographers as a window on trendy management-theory psychobabble. Nietzsche would be proud of its concluding section’s praise of organizational death as an inspiration to those made unemployed. A second, and better, chapter on social capital networks in the valley notes structural similarities in the evolution of other industrial districts that follow the famous North Italian model. Interdependence and a culture of trust allow small, locally linked firms to thrive
in a specialized region that cooperates to produce for an international market. The unique Bay Area wrinkle is said to be the extraordinary record of collaboration between Stanford as a research university and nearby high-technology firms. Many regions now try to imitate this aspect of Silicon Valley’s cluster. The biotechnology industry, with the Bay Area now said by the authors to be the “world’s leading center” for that sector, is asserted to have successfully followed in the path of microelectronics. Babble breaks out, unfortunately, in the concluding paean to trust as the building block of Silicon Valley. A simpler summary might be that “momentum happens” in high technology clusters that had some initial advantage. The editor is the lead author of the eclectic concluding chapter on the “cluster of institutions dedicated to creating firms” that is “the essence of Silicon Valley” (p. 221). What an incredible wealth of consultants exist there devoted to supporting the firm-creation process. In a bizarre twist of editing, the last dozen pages of the book provide an introductory review of the sequence of semiconductor firms emanating from Shockley’s pioneering transistor company in the 1950s. Trust may be the deep structural foundation of Silicon Valley’s dynamism, but the rapid sequence of firms born out of backstabbing and departures to breakaway companies looks Shakespearean on the surface.