This remarkable book, besides being timely, sophisticated, penetrating, informative, and well researched, also provides significant additional evidence that the hype surrounding the so-called information revolution of the late twentieth and early twenty-first centuries is just that. The comparative case study of two innovation leaders, the G. F. Swift meatpacking company in the nineteenth century and Dell Computers in the twenty-first century, goes a long way toward demonstrating that this revolution was continuous and began with the railroad and telegraph innovations and progressed continuously through a sequence of related innovations, from the invention of voice telephony or the telephone to wireless radio, television, computer networking, and eventually the Internet. Nor does the author conclude that the communications revolution is over. Furthermore, it is not difficult to see the notion of a “knowledge age” as yet another extension of this long string of innovations in communication. This conclusion is but one of the interesting contributions that the book makes to understanding how firms can and may adjust to and use patterns of technological change and how markets, including their territorial extent, change as firms adjust to the changing landscape of technical options.

The thesis of the book is that the communications revolution led to innovations that, in turn, created new opportunities for businesses, which, as they sought to capitalize on these opportunities, used corporate “power” or capacity and administrative control to change their organizations. The consequence of this change, when successful, as with the cases of G. F. Swift and Dell Computer, is enhanced productivity, an expanded market share, greater profitability, and the transformation of the territorial structure of the firm’s market. Furthermore, such process innovations create leader-follower opportunities that result in the broad transformation of business processes, competition, and territorial markets. This, the author argues, is how economies change and grow and where the catalytic trigger for economic transformation comes from.

The book is not just a comparative case study but, rather, a thesis erected on a solid theoretical base and a well-informed interpretive analysis of two carefully selected cases. Before turning to the question of “why these cases?” it is useful to review briefly the theoretical and philosophical foundations of the study.

Philosophically, the book is consistent with the principle of uniformitarianism, which argues that the present depends on the past, that is, there is a strong degree of structural unity and continuity of forces across time. Fields does not argue this point explicitly, since he views history as composed of parallel events across time or, more metaphorically, as composed of rhymes across time. In this sense, he argues that Swift and Dell are not repeating events, but share parallels and, in this sense, at least for these cases, are like a poem that rhymes passage by passage. This perspective works for the most part for these cases, and that is why they were chosen—they provide good cases to test the thesis of the book.

The conceptual foundation the book is a synthesis of three bodies of theory. The first theoretical element views innovation as history and connects the thinking of Marx, Schumpeter, and others. The next element is business organization theory, which offers an explanation of how the firm adapts to technological change in an effort to maintain and extend its competitiveness, on the
one hand, and how the firm’s adaptation changes territorial relations, including the extent of the market and economic structure, on the other hand. The final theoretical perspective is on the role or nature of the so-called communications revolution as a “catalyst” or “carrier wave” of a linked sequence of innovations. This role, Fields concludes, provides the grist that creates both opportunity and urgency for the firm as it seeks to maintain and enhance its competitiveness. The central agent of technologically driven economic change for Fields is the firm as it adapts and transforms the possibilities offered by new technologies and knowledge into innovative business processes and related products and services. But not all firms are such agents of change. That is why Swift, founder of the mass-produced fresh beef industry well over a hundred years ago, and Dell, the recent and current developer of custom-built and personal computers, are the cases and centerpieces of this research; they both were remarkable leaders of successful change in business process in the face of large-scale changes in communications technology.

So what were Swift’s and Dell’s innovations? Swift faced a dynamically changing technological landscape characterized by the introduction of the railroad and telephone/telegraph. Before Swift, meat was, for the most part, produced, processed, and distributed locally. Swift adopted a customer pull strategy and created a vertically organized network of production, processing, and distribution centers that served the national market through a logistics system using telephony to receive and meet orders from local shops and railroads to fill and distribute orders to the shopkeepers. Swift could do so because it became a large vertically organized firm that owned all of the significant means of production and most of those needed to distribute the product and communicate with the final intermediate customer. Swift’s contribution was a process logistics-centric innovation, erected on the new transportation and communications technologies, that made it possible to integrate and serve many highly disaggregated local and regional markets across the nation. Swift’s success led to imitation and the subsequent transformation of a large network of largely unconnected markets in the meat-packing and other industries into systems of integrated national markets by a process of diffusion. Dell, facing both the challenge and opportunity provided by the Internet, implemented a virtual customer pull global strategy by creating a large integrated supply chain of contractors for producing, marketing, and servicing personal computers. This system links Dell directly to the customer and supports customer-Dell integrated transportation logistics to support a just-in-time supply of parts to production centers throughout the world and from which customers’ orders are filled. In this way, Dell created a global market for its computers driven by customer demand in a near-realtime framework of demand and supply. In short, by redefining the relationship with the customer and by transforming their organizations, Swift and Dell used distribution innovations to achieve vast savings in production and sales-related transaction costs and the navigation of geographic space. These achievements, in turn, significantly magnified their scale of operations, competitiveness, and profitability, thus making them the focus of imitation that led to vast changes in the markets they served and thus economic development.

So how well do these two cases rhyme? There are a number of parallels. First, both Swift and Dell reshaped territorial markets for economic activity and competitiveness. Second, the national (Swift) and global (Dell) territories that were formed became the geographies of development in the two different periods. Third, Swift and Dell both used the technologies of the communication revolution as their foundation for direct-to-the-customer marketing, production, supply, and distribution. The success of both companies influenced the competitive behavior of others through the diffusion of their methods to other firms and thus helped shape developmental patterns in the economy. Fourth, both innovations were erected on a direct customer pull
strategy that used modularity and standardization for various degrees of the customization of products. Fifth, both firms used organization, rather than market control, to achieve their visions and thus, as the author argues, support a conclusion that is more consistent with Alfred Chandler’s invisible hand than Adam Smith’s hidden hand.

There are a few caveats. Two are suggested here. First, the two cases are different in some ways; for example, each case used different communications and transportation innovations, each had different specific market and territorial effects, and so on. However, these seem to be trivial differences in the face of the process similarities and market and economic effects. Second, Fields adopts a firm-centric approach that elevates the firm to the role of driver of economic change. While there is some evidence to support this view in the case analyses, it is difficult to assume that no or minimal microlevel roles are involved, such as the entrepreneur, or a minimal role for macroeconomic conditions. These are, however, minor issues in one of the most interesting and provocative books written in the past few years on the communications revolution and its impact on competitiveness, markets, and economic development. It is a must read for all students of economic growth and development.

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