Great Britain, and then the USA and Germany, became world industrial leaders by generating pioneering technology. They either invented new products and processes or were the first to commercialize them on a large scale. By contrast, late-industrializing countries in the twentieth century have evolved as ‘learners’, by borrowing and improving technology that had already been commercialized by experienced firms from more advanced economies.

While innovators in the First and Second Industrial Revolutions certainly borrowed and learned from each other, even the most prominent enterprises in late-industrializing countries have had to grow exclusively on the basis of learning; they initially had no competitive assets in a new product or process, which is the meaning we attribute to ‘lateness’. The imperative to industrialize exclusively on the basis of learning is responsible for many general properties in common in a subset of developing countries that are diverse in resource endowment and culture: Japan (although as a pioneering learner, unique in many respects), South Korea, Taiwan, India, Brazil, Mexico and others (Amsden, 1989). It is these countries that generally have increased dramatically their share of world production in the twentieth century (see Table 13.1).

On the one hand, standard price theory predicts that latecomers develop by ‘getting the prices right’ and typically using low wages to gain a comparative advantage in labour-intensive industries. But, as discussed shortly, no major late industrializing country has successfully followed this route in the twentieth century. On the other hand, the doyen of institutional theories of late industrialization, Alexander Gerschenkron, conceives catching up as a process of ‘revolutionary’, ‘eruptive’ spurts, with the most backward countries promoting ‘those branches of industrial activities in which recent technological progress has been particularly rapid’ (1962, pp. 9–10). Not, however, since the now discredited case of Russia, whose experience principally Gerschenkron sought to explain, have latecomers followed this route.¹
Instead, the leading enterprises of the late industrialization spearheaded by Japan have pursued a strategy of competing primarily by means of incremental rather than radical changes in products and production techniques. They have entered those branches of industry, whether capital- or labour-intensive, that are not new but rather 'post-adolescent' or 'mid-tech'. A 'post-adolescent' technology is one that can be purchased at competitively-determined prices in the international market, much like many other products.²

It is our intention in this chapter to present some of the common properties of a historical paradigm of industrialization through learning. We present a theoretical description of industrializing through borrowing technology that is set in a specific historical context, the twentieth century. We use the process of technology acquisition – structured in terms of either generating new, or borrowing post-adolescent technology – as a cutting knife to distinguish the economic behaviour of countries in the course of industrializing. By comparing the historical industrialization process of borrowers and innovators, we argue that technology acquisition differences strongly shape: (a) the role of government in promoting industrial development; (b) the competitive focus of successful leading enterprises; and (c) firm strategy and structure.