dot-matrix printers while Hewlett-Packard (HP) led in the laser and ink-jet segments.[5]

Looking at each of the three games—dot-matrix, ink-jet, and laser—in isolation suggested that Epson was in the wrong one. The laser segment had the highest prices and margins and was the fastest growing. So in August 1989 Epson launched a very competitively priced laser printer, the EPL-6000. It was a bit of a me-too product and lacked the Hewlett-Packard brand name. One week later, HP came out with its LaserJet IIP, priced significantly below the EPL-6000. Epson responded by reducing the price of the EPL-6000 and succeeded in building up to a 5 percent share of the laser printer business by December 1989.

Due to the intensifying price competition in the laser segment, other players, such as Toshiba, lowered the prices of their laser printers. Epson's gains stalled. The price competition also hurt HP's sales of its ink-jets. HP began promoting the ink-jets aggressively in order to counteract the narrowing price gap between the ink-jet and laser segments.

Epson then discovered that it was losing dot-matrix sales to the now comparably priced ink-jet machines. Prices had to come down in the dot-matrix segment, but there wasn't much room to go. Epson's core business was doubly squeezed.

What was Epson's mistake? It misunderstood the scope of the printer game. By treating the laser printer game as separate from the dot-matrix printer game, Epson failed to see that low-price entry into the laser segment could jeopardize its core business. Perhaps Epson assumed that high-end laser machines could never cannibalize sales of low-end dot-matrix printers. If so, it failed to think through the links from laser to ink-jet segment and from ink-jet to dot-matrix segment.

The Epson story shows how a move in one game can affect your fortunes in other games. The links between games can cause a cascade effect, and Epson didn't foresee the chain reaction it set off. Taken in the small, Epson's actions seemed reasonable, but looked at in the large, they weren't. And Epson failed to see the larger game. It didn't anticipate the competitors' reactions to its actions. If it had, it would have seen that it was much better off under the status quo.

In the Scope chapter, we'll return to the important subject of links between games.

5. Rationality and Irrationality

People often imagine that game theory requires all the players to be rational. Everyone is out to maximize profits. Everyone understands the game. There are no misperceptions. Feelings of pride, fairness, jealousy, spite, vengefulness, altruism, charity never arise. That's all very nice, but it's not the way the world is. So much for game theory.

In many ways, people are right, or were right. Granted, the simple textbooks present a view of "rational man" that doesn't apply very well to the mixed-up, real world of business. But that's a problem with the textbooks. While early work in game theory didn't talk much about rationality or irrationality, current work does. The textbooks simply haven't caught up yet.

Early game theorists had good reason to spend little time worrying about irrationality. Game theory started out by analyzing zero-sum games, like poker and chess. In these games, failing to anticipate that the other player may make an irrational move doesn't get you into trouble. If he does something irrational, that's good news for you. Anything that makes him worse off must make you better off, since it's a zero-sum game.

But games in business are seldom zero-sum. That means you can succeed together or fail together. When another player can take you down with him, you care about his rationality. Think back to the Card Game. How Adam and a student divide the $100 is zero-sum: if Adam gets more, the student gets less, and vice versa. But the fact that Adam and the student will both get nothing if they fail to reach an agreement makes this very much a non-zero-sum game. Either player, in hurting himself, hurts the other player, too. Each has to be concerned about the other's rationality.